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THE A. I. ROOT COMPANY, PUBLISHERS, MEDINA, OHIO

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60-lb. cans, in bulk, each	.33
24-oz. round glass jars, carton of 12	.60
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8-oz. round glass jars, carton of 24	.70
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Honey Markets

Information from Producing Areas (First Half of September).

California Points: Southern California—Temperatures have been about normal during this period, with precipitation negligible. Bees are still getting a very little nectar from rabbit brush, pepper trees, cover crops in orange groves, and some colonies have made a slight gain from black seal honeydew. This honeydew honey is amber in color and colonies are reported to have made a gain of two pounds a week from it. Sage and wild buckwheat plants are extremely dry, however, and some plants have been leafless for months. Stores are light except where bees have been moved to the bean and orange belts, and may average 35 per cent below normal. Perhaps 20,000 colonies are being fed at present, principally with sugar handled through the S. E. R. A. Eucalyptus is budding heavily. Buyers of honey are exceptionally active, with the light amber grades in somewhat better demand than most of the lighter grades. The market has been firm to slightly stronger, with trading fairly good. Export business during recent weeks has been largely confined to comb and to small shipments of extracted in glass containers. Sales by beekeepers reported as follows, per lb., f. o. b. shipping points, in ton lots or more: Orange, Extra white to water white, 5¾-6c; white, 5¼-6c; mostly 5½c; light amber to extra light amber, 4¾-5¼c; mostly 5c; sage, extra white to water white, occasional sale, 6¼--6¾c. Extra light amber to white, 5¾-6c; white to extra white bean, 5¼-5½c- few, 5¾, and occasional sale, 5c; amber buckwheat, 4½c; amber eucalyptus, 5c; mixed flowers; light amber to extra light 5½c; light amber to extra light amber, 4¾-amber, 4¾-5c; some light amber, 4½c; Imperial Valley light amber to extra light amber alfalfa mostly 5c; few, 4⅞c. Beeswax, moderate demand, with prices showing little change at 16½-18c per lb. for good quality yellow wax, and 16c for wax of poor quality delivered Los Angeles. Central California—Interior valleys have had higher temperatures, but near the coast normal temperatures have prevailed. Colonies near the coast are in fairly good shape and though depleted of old bees, have sufficient brood and young bees with adequate stores to put them in good condition for winter. Especially in the interior many colonies will have to be fed. There has been a slight nectar flow from cotton, alfalfa, blue curl, spikeweed and jack clover, and in the Sierra Mountains from buckthorn and honeydew. The cotton flow has been below normal and is over in most places. Beekeepers are holding their stock at firm prices and are not selling freely, although demand is only moderate, with sales mostly limited to nearby markets. Export demand is negligible, with some former exporters now completely out of the market. Sales reported by beekeepers in ton lots or more, per lb., light amber, alfalfa-bean, 4½-4¾c; white bean, 5½c; light amber mixed, 4½c; few up to 5½c; water white sage, 7c; light amber to extra light amber alfalfa-cotton, 4½-5c; mostly, 4⅞c. Very slow demand reported for beeswax, which is nominally unchanged at 16-17c per lb. Northern California—The condition of colonies appears much better here than further south in the state except where continued arsenical dusting from airplanes has practically wiped them out. Brood rearing is still in progress, though lessening, and brood is normal or above most of the area. A small amount of nectar is still coming in from blue curl, sunflower, alfalfa, mustard, morning glory, and turkey mullein in the valleys, and from cedar and other sources at high elevations. Bees are still storing heavily at 3000 feet elevation in Shasta County. The number of colonies is reported above normal except in Sacramento Valley, where losses from poison have been heavy. Demand for honey has been good. Buyers are making active inquiry for alfalfa honey, but the supply is light. Sales reported, per lb. star thistle, white, 5½-6c; extra light amber to white, 5¼c; light amber to extra light amber, 5c; light amber alfalfa-bean and alfalfa-thistle, 4½-4¾c; light amber alfalfa-clover, 4¾-5c; light amber mixed, 4½c; extra light amber mixed, 5½c; small pails white alfalfa or star thistle, 8c; star thistle comb, $3.60 per case. Beeswax is nominally unchanged at 16-17c per lb.

Pacific Northwest: West of Cascades—Colonies have ample brood supply in the valley, but queens have stopped laying in the mountains. Bees are working lightly on smartweed, French pink and goatweed with some pollen also coming from corn. Clover prospects for the next year are uncertain owing to the dry summer. Little new fireweed will be re-seeded this fall. Late reports confirm earlier indications that the crop of fireweed honey was spotted but generally much below normal. East of Cascades—In the Yakima Valley most of the alfalfa has been cut but bees are still storing honey and weak hives are recovering though many have been lost from poison spray. Little extracting reported so far. Further east in this area the bees are working a little on third crop alfalfa but this has been nearly all cut and due to the dry weather there has been little nectar secretion. A late flow from rabbit brush is expected if rain should fall.

Intermountain Region—Extracting of the surplus honey crop is now about over and the crop for the section is larger than anticipated a few weeks ago. The quality of the honey is generally good. Inquiry for honey has been good but many beekeepers are holding, hoping for higher prices than are now being offered. Some beekeepers insist that they will hold their honey for 6c per lb. and others are looking forward to a price later of 6½c per lb. Numerous carlot sales of white to water white sweet clover and alfalfa have been reported at 5-5.85c per lb.; most cars, 5-5½c; ton lots, 5-6; mostly, 5-5¼c; 60s up to 6¾c; small pails, 6½-8c; light amber alfalfa, several cars, 4½c; less carlots, 4½-5c; few, 5 2-5c. Bulk comb white, small pails, 8½-9c per lb. Section comb, fancy to No. 1, $2.00-2.50 per case; No. 2, $2.25; lower grades, light weight, $1.65-2.10 per case. Beeswax 15-16c per lb. Colorado—The nectar flow still continues with most bees getting at least enough for winter needs and further surplus anticipated except where early frost has completely killed the blooms. Estimates of the size of the crop range widely in different yards from 10 to 125 pounds per colony, but usually not more than 40 lbs. Wyoming—Late reports confirm earlier statements that the crop is proving much better than was thought possible a month ago. This is due partly to the fact that ranchmen allowed their alfalfa to bloom and that much of it was too short to cut. Nectar is still coming in under the stimulus of the fine weather. Montana—Flower bloom is sufficient for the daily need of the bees and a little surplus is still being secured in some sections. Stores are irregular but generally ample for winter needs. Occasional colonies have obtained only enough to carry them over the winter, but usually a surplus about half of last year's crop has been secured, and in some cases the crop equals that of 1933. Idaho—Extracting is about over. The quality of honey is reported very good and yield is about the same as that of last year. Where third crop hay is just coming into bloom more surplus is still possible but most nectar now obtained is going into winter stores. Utah—Bees are still packing brood nests for winter as the nectar flow continues. The crop is spotted, but present indications for the entire state are for a surplus of around 25 pounds to the colony. Bees are reported to have enough honey for winter except where extracting has been too close. Nevada—The month of August brought a heavy honey flow in western Nevada

and the total crop is considered up to average and in some cases above average.

Plains Area—Red River Valley of Minnesota and North Dakota. Some nectar is still coming in but not much more than enough for daily needs. Rainfall during this period has been light. The crop is very much less than that of last year. Sales reported of small pails extracted at 7c per lb. South Dakota—Recent showers have fallen which are improving the condition of remaining honey plants, especially in the eastern part of the state. Dandelions are starting to bloom, and if the weather continues favorable some nectar may be secured from this source. Rains also brought occasional apple, plum, cherry and choke berry trees into bloom. Along the Missouri River possibly 30 per cent of a normal crop of honey is being taken; the Black Hills will harvest about 50 per cent of a crop; but bees in the western prairie and central part of the state will, as a rule, have to be fed for winter. Some beekeepers are not planning to feed but will replace with packages next spring. Demand for honey will be improved by the lack of fruits and vegetables over most of the state. Beeswax reported sold for 18c per lb. Iowa—Scale colonies show a loss in weight of about 5 pounds during the last month. Recent rain has put clover plants in good condition for next year, but the fall nectar flow has been light. Bees are said to be generally strong, with a fair supply of winter stores and considerable brood, though where extracting was early the stores are often short. Inquiry for honey is good and buyers are driving through the country endeavoring to purchase remaining stocks, though they are less active than a month ago. The bulk of the crop is said to be out of the hands of beekeepers.

(Continued on page 636.)

Monthly Report of Honey Producers

Early in September we sent the following questions to honey producers: 1. What is the final average yield per colony to date this season in your locality of (a) extracted honey? (b) comb honey? Give answer in pounds. 2. How does this compare with the average yield for your locality? 3. At what price has honey been sold or contracted for, if any, in large lots (carload or less) in your locality during the past month (a) extracted honey, per pound; (b) comb honey, fancy and No. 1, per case? 4. What are prices when sold to grocers in case lots of (a) extracted honey in 5-lb. pails or other retail packages in terms of 5-lb. pails? (b) comb honey, fancy and No. 1, per case? 5. What is the retail price to consumers in your locality for (a) extracted honey in 5-lb. pails, or other retail packages in terms of 5-lb. pails? (b) comb honey, fancy and No. 1, per section? 6. How is honey now moving on the market in your locality? Give answer in one word as slow, fair or rapid. 7. What is the condition of the colonies for winter in your locality compared with normal, considering the number and age of bees and the supply of stores? Give answer in per cent. The answers received are tabulated below.

State. Name.	Aver. yield per colony. Ex.	Comb.	Aver. yield.	Large lots. Ex.	Comb.	To grocers. Ex.	Comb.	Retail price. Ex.	Comb.	Movement.	Cond. of colo.
Ala. (J. M. Cutts)	0	..	..	.07	..	.55	..	.65	..	Fair	100
Ala. (J. C. Dickman)	50	..	..	..	..	.35	..	.50	..	Fair	100
B. C. (A. W. Finlay)	100	..	..	.10	..	.75	..	.90	..	**Fair**	**100**
Calif. (L. L. Andrews)	15	0	60	.05½	..	..	..	.62	.17	Fair	50
Calif. (Geo. Larinan)	0	0	..	.07½	..	..	..	..	..	**Rapid**	..
Colo. (O. E. Adcock)	25	0	50	.06½	..	.40	..	.50	..	Rapid	100
Conn. (A. Latham)	60	45	100	..	..	.75	4.75	1.00	.27	Fair	100
Fla. (C. C. Cook)	45	..	75	.05	..	.35	..	.45	..	Fair	100
Fla. (H. Hewitt)	55	..	110	.05	..	.40	..	.55	..	Fair	100
Ga. (J. J. Wilder)	15	12	25	.05½	..	.50	..	.60	..	Fair	100
Ida. (R. R. Isbell)	90	45	120	.05¼	2.75	.38	3.10	.45	.16	Fair	110
Ill. (A. L. Kildow)	40	20	50	..	..	..	..	.50	..	Slow	..
Ind. (E. S. Miller)	50	25	50	..	..	.60	3.60	.75	.20	Slow	75
Ind. (T. C. Johnson)	..	..	..	..	..	.50	3.60	.60	.20	Fair	100
Ind. (Jay Smith)	50	30	75	..	..	.50	3.00	.65	.15	Slow	100
Iowa. (E. G. Brown)	100	..	66	.06	..	..	..	.65	.20	Fair	100
Iowa. (F. Coverdale)	40	25	40	.06½	2.40	.40	2.50	..	.15	Fair	80
La. (E. C. Davis)	50	..	75	.05½	..	.40	..	.55	..	Fair	100
Me. (O. B. Griffin)	..	40	..	..	..	..	5.50	..	.35	Slow	90
Mich. (I. D. Bartlett)	100	..	80	.07½	3.75	.50	..	.65	..	**Fair**	**75**
Mich. (L. S. Griggs)	80	40	50	..	..	.45	3.00	.55	.15	Fair	100
Mich. (F. Markham)	50	..	..	.07½	..	.55	3.60	.75	.20	Rapid	90
Mich. (E. D. Townsend)	50	..	50	.08	..	..	..	..	..	Slow	100
Minn. (Francis Jager)	105	..	100	.07	..	..	..	..	..	Rapid	100
Minn. (F. W. Ray)	80	..	50	.07	..	.50	..	.59	..	Rapid	100
Nebr. (J. H. Wagner)	70	35	45	.08	3.00	.50	3.60	.60	.20	Slow	90
Nev. (G. G. Schweis)	160	75	80	.04½	2.40	..	..	..	..	Fair	90
N. Y. (Geo. B. Howe)	75	48	67	.06½	3.25	.50	3.60	.65	.20	Fair	100
N. Y. (F. W. Lesser)	100	60	150	.06¾	3.25	.50	3.60	.60	.20	Fair	100
N. Y. (N. L. Stevens)	100	..	125	..	..	.40	3.60	.60	.18	Slow	100
N. D. (M. W. Cousineau)	80	48	..	.06	3.00	..	3.00	.60	.20	Good	Fair
Ohio. (F. Leininger)	180	..	125	.07	..	..	..	..	..	Slow	125
Okla. (C. F. Stiles)	10	0	25	..	..	.50	3.50	.60	.18	Fair	60
Pa. (H. Beaver)	60	30	100	.06	..	.50	3.00	.65	.17	Rapid	100
Pa. (D. C. Gilham)	120	75	150	..	..	.75	4.25	1.00	.25	Slow	90
S. C. (E. S. Prevost)	..	40	80	..	..	.60	..	1.00	.15	Slow	90
Tenn. (J. M. Buchanan)	40	25	60	..	..	..	..	.75	.20	Slow	90
Tex. (J. N. Mayes)	15	5	50	.05	..	.25	4.00	.35	..	Slow	100
Tex. (H. B. Parks)	15	..	33	.04	..	.42	..	.50	..	Fair	80
Utah. (R. N. Miller)	..	..	..	.05½	..	.42½	..	.50	..	Fair	..
Vt. (P. Crane)	85	35	70	..	3.75	..	4.20	.90	.27	Fair	90
Wash. (W. L. Cox)	40	..	40	..	..	..	..	..	..	Fair	60
Wash. (G. W. B. Saxton)	75	..	100	.06½	..	..	5.00	.49	..	Fair	100
W. Va. (W. C. Griffith)	75	..	100	..	..	..	..	.50	..	Slow	50
Wis. (N. E. France)	30	7½	..	..	..	..	..	.55	.15	Fair	75
Wis. (James Gwin)	60	..	120	.06⅝	..	.40	..	.55	..	Fair	95

Honey Cookery Contest

Sponsored by American Honey Institute in connection with the annual convention to be held at Valdosta, Georgia, December 17, 18, 19, 1934.

——RULES OF THE CONTEST——

1. All entries must reach Valdosta, Georgia, by midnight of December 15.
2. All products must be well labeled, have recipe attached, include two or three ounce sample of the honey used, and the label from the original honey purchase.
3. The contest is open to every one.
4. Products may be entered in

   CLASS A—Entries in this class must use all honey as source of sweetening. Cake, the Best Fruit Cake. Cookies, the best honey cookies.

   CLASS B—Entries in this class must use 50% honey as source of sweetening. Cake, the best chocolate cake. Cookies, the best cookies.

   CLASS C—The products that show the most unusual use of honey (not limited to food products).

PRIZES: A full list of prizes will be included on the printed contest rules as well as in the November issue of all the bee journals.

National Honey Week

Remember that the time for observing this week is approaching fast. The dates are November 11 to 17. How many local stores, clubs and schools have you approached in getting the Honey Week Program sponsored? Please study carefully the Institute's National Honey Week Program. Then make your local contacts.

Unless you order your Honey Week material far enough in advance, the Institute will not be able to take care of your order due to low supply of printed material on hand and because of its small staff. Memberships are being received so slowly that the Institute is forced to operate accordingly.

BARGAINS
BEE SUPPLIES

Some of our distributors have stocks of slightly shopworn bee supplies. These goods are quoted F. O. B. shipping point, cash with order.

The A. I. Root Co.

Send Your Order for the Following to
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200—Old-style Danzenbaker Section Holders for 4x5 sections, per 100 ..... $4.75
100—Jumbo Frames, Hoffman, K. D. 4.60
100—Danzenbaker Shallow Frames, 5⅜, with hanger pins 4.00
100—Standard frames, non-spaced with divided bottom 4.00
2—40-gal. Storage Tanks, each 6.80
11—5s—22633—Excelsior Covers, 10-frame, K. D., per 5 ..... 2.10
3—5s—22523—Shallow Ex. Supers, with frames, 10-fr., K. D., per 5 ..... 3.55
4—5s—22533—Comb-honey Supers for 4¼x1½ plain sections, K. D., per 5, 5.00

Send Your Order for the Following to
THE A. I. ROOT CO. OF IOWA, COUNCIL BLUFFS, IOWA

250—8-frame Wood and Wire Queen Excluders, each $0.48
6—Caroline Foundation Cutters, each ..... .10
3—Woodman Section Fixers, each ..... .90
20—Dixie Bee Brushes, each ..... .10
50—Little Junior Smokers, each ..... .19
900—4¼x4¼x1⅞" Printed Sections, No. 1, per 1000 ..... 1.00
14—10-frame Queen and Drone Traps, each ..... .33
2—4-frame Buckeye Power Extractors, 9⅝" pockets 59.50
1—4-frame Buckeye Power Extractors, 12½" pockets 69.50
200—8-frame Beeway Comb Honey Supers, empty, per 5 ..... 1.57
500—10-frame Beeway Comb Honey Supers, empty, per 5 ..... 1.62
200—8-frame Beeway Comb Honey Supers with fittings, per 5 ..... 3.00
700—10-frame Beeway Comb Honey Supers with fittings, per 5 ..... 3.25
200—10-frame Wood Hive Covers, per 5 ..... 2.20
500—10-frame Hive Bodies, empty, per 5 ..... 2.75
5000—Shallow Extracting Frames, per 50, $1.60; per 100 ..... 3.00

Send Your Order for the Following to
ZACK DAVIS, DELAWARE, OHIO

600—3-hole Mailing and Introducing Queen Cages, complete, no candy, 100, $3.50

Send Your Order for the Following to
A. I. ROOT CO. OF CHICAGO, 224 W. Huron, CHICAGO, ILL.

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2-lb. jar—1 doz.	**.60**

Special prices on large quantities.

Tin cans, pails, shipping cases, comb honey cellophane wrappers, cartons, paper cups. A complete line of containers. Write for full list of containers and label catalog.

DADANT & SONS, HAMILTON, ILLINOIS

Gleanings in Bee Culture
OCTOBER, 1934

The International Congress of Beekeepers at Valdosta, Ga., on Dec. 17

More evidence is coming in showing that in spite of the drouth and the depression this promises to be the greatest and most important gathering of beekeepers that was ever held in America. The opportunity to see the sunny Southland and to meet the great stars in beedom will be offered to all beekeepers who can drive down camp out, fish and hunt. The cost will be about a cent a mile down and back in a flivver and from 50 cents to a dollar a head for lodging for those who prefer not to camp, but to go to a rooming house or a hotel. For further particulars see Just News, page 628.

Cellar Wintering

For many years bees in northern latitudes have been wintered quite successfully in cellars. During the past few decades the outdoor method of wintering has become quite popular even in some of the northern states and parts of Ontario, Canada, where cellar wintering was practiced formerly. Very populous colonies with ample stores of good quality and adequate winter protection in the way of windbreaks and packing are factors that have made outdoor wintering in these regions possible. The recent winters have been comparatively mild and therefore favorable for outdoor wintering.

The extremely cold winter of 1933-1934 will not soon be forgotten by beekeepers in the northeastern United States and Canada. One beekeeper in northern Ontario reported that colonies in packed hives perished and the combs of honey on which the bees were clustered were cracked by the frost. This beekeeper is adopting cellar wintering for the future.

Cellar wintering has a place in beekeeping, especially in cold regions where bees are confined to their hives for long periods without opportunities for winter flights. It is possible to winter a small or moderate sized apiary in a dark cellar under a dwelling house, but large apiaries should be wintered in a specially constructed underground respository or bee cellar. The ceiling of the cellar should be below the frost line and the temperature of the cellar should range between 40° and 50°. F. Suitable ventilators for the cellar are necessary.

Bees properly wintered in a cellar consume less stores than outdoor-wintered bees, because the bees in the cellar are not subjected to sudden or extreme changes in temperature as are bees outdoors.

Mr. Charles H. Pease of Canaan, Conn., has an article in this issue, pages 589-592, that will be of special interest to beekeepers in regions where cellar wintering is practiced.

A New Era of Beekeeping

The general drouths over so much of the country for several years may be a blessing in disguise. Mr. M. G. Dadant of the American Bee Journal, at one of the Michigan field meetings, stated that the county agents of his state were urging farmers to put in sweet clover and alfalfa, legumes that will stand drouth better. What is occurring in Illinois is taking place in other states.

All this may mean that drouths will force sweet clover into all other states where there is enough lime to support it. It will mean that when the rains come back, as they surely will, in another cycle of years, that the honey season will begin in the North with white and alsike clover and continue on into sweet clover and finally alfalfa. This will extend the honey season from the middle of May on into August and September.

There will then, observed Mr. Dadant, be so much honey that the American Honey Institute will be needed more than ever. The Institute must not die. We need it now and we shall need it then.

Gleanings joins with the American Bee Journal in believing that this new era of sweet clover and a land flowing with milk and honey is coming. It has already come, where the county agents have preached the gospel of sweet clover.

Recommendation Regarding Bee Prices

Word has just been received from the Bee Shipping Federation Committee that a recommendation has been made to the Secretary of Agriculture that the schedule of prices of package bees, nuclei and queen bees remain the same for the spring of 1935 up to May 31. Prices beginning June 1, 1935, have not as yet been established or recommended.

Bees Wearing Themselves Out

The article by Geo. Harrison, Jr., entitled "When is the Winter Cluster Reared?" which appeared in the September issue of Gleanings, may have been misunderstood by a few of our readers. One beekeeper wrote that she feared her bees would be worn out this fall because they are quite active.

A good fall honey flow is an advantage. When flowers yield copiously bees do not need to wear themselves out searching for nectar. On the other hand, when flowers secrete nectar rather sparingly much searching is necessary for the bees to get a load of nectar. Under these conditions bees may actually wear themselves out searching and the population of colonies may be somewhat depleted. It is much better to have a good heavy honey flow rather than a meager honey flow.

National Honey Week

Preparations are being made for National Honey Week, which comes November 11 to 17. The American Honey Institute is sponsoring a worthwhile program and has induced a number of the large food concerns to feature honey in their advertising posters, window displays, etc.

The success of Honey Week depends largely on the beekeepers. There are a number of things we can do. We can help to make our communities more honey conscious and thereby create consumer demand by focusing interest on honey and bees. Every beekeeper should arrange if possible for a window display of honey in a grocery store. An observation hive of bees in the window with the honey helps to attract attention. Some special advertising of honey in the local newspapers is worth while. Stories of bees and honey run in the papers prior to and during Honey Week helps. The distribution of honey folders containing recipes and information on honey helps to acquaint the public with the virtues of honey. Let's make this National Honey Week the best ever.

Factors Affecting Nectar Secretion

A beekeeper from New Jersey visiting our office this past month reported an interesting occurrence. A year ago last August the fall honey flow had started in that state. Nectar was pouring in. A severe storm assuming the proportions of a tornado or hurricane in some sections, swept along the Atlantic coast. Very little, if any, surplus honey was stored in some sections of the state after the storm. The question is, did the storm stop the honey flow, and if so, why?

During the summer and early fall of 1930 bees around Medina made a scant living. No surplus was secured. Hives averaged less than 10 pounds of honey in the brood chambers on August 15. About August 20 rains came and on August 25 a rapid honey flow started. In three weeks our scale hive made a gain of 75 pounds from goldenrod and aster.

This fall conditions appear to be much more favorable for nectar secretion than they were in 1930, yet little, if any surplus honey has been stored from goldenrod to date, September 17. It seems we have much to learn about conditions or factors affecting nectar secretion.

Honey Prices

By August, 1934, white honey in carlots was selling for an average of a cent a pound higher than it did in August, 1933, an increase of approximately 16 per cent. During the year, according to the August 16 number of The Agricultural Outlook, cheese increased 3 per cent, steers 11 per cent, wheat and rye, 15 per cent, milk 29 per cent, and butter 33 per cent. If honey should go up another cent as advocated in a number of states, it would be selling for 33 per cent more than it did a year ago, and on a par with the increase in butter prices.

At this time, September 6, the textile strike is on, with little prospect of an early settlement. If this situation should develop into a general strike, business everywhere will suffer because of curtailed capacity to buy on the part of consumers, directly or indirectly affected by the strike. It is doubtful if honey prices will go down again but the logical movement upward may be checked. The fu-

ture can not be predicted. Meanwhile, prices on the New York sugar futures market rose during August to the highest level reached in more than four years.

Don't Winter Diseased Colonies

There appears to be a tendency on the part of some beekeepers to winter colonies infected with American foulbrood, especially if the colonies are strong and the disease is found late in the fall when it is impossible to treat. This is dangerous practice. Even though the diseased colonies are moved away from other bees until they can be shaken the following spring there are some hazards. It may be possible to winter slightly infected colonies that are very populous, but as a rule diseased colonies wintered outside do not survive a severe winter. If they die before spring and the hives are robbed out by bees within flying distance, the disease is spread to other apiaries. Then there is the danger of diseased colonies being stolen, knocked over or otherwise tampered with. The beekeeper who makes a practice of disposing of diseased colonies promptly when the disease is found is likely to have less disease than the beekeeper who makes a practice of harboring disease. If all beekeepers would dispose of A. F. B. the day it is found this disease problem would soon fade into insignificance and beekeepers would then be able to devote their efforts to honey production rather than fighting American foulbrood.

Too Much Hive Manipulation Harmful

A normal colony of bees begins preparations for winter early in the fall. Honey is stored where it will be needed. An abundance of pollen is deposited in the bottoms of the cells in the combs of the brood chamber. Much of this pollen is covered with honey. This pollen is available for brood rearing when it is uncovered the following spring. All cracks and crevices in the hive are filled with propolis. The hive cover is cemented on with propolis and made air tight. The bees know winter is coming.

It is a mistake to open hives and shift or change the arrangement of combs in the brood chamber late in the fall. This interferes with the plans of the bees and may mean the loss of the colonies during the winter.

As a matter of fact, it seems unwise to give hives too much manipulation at any time during the season. For instance, when a populous colony is gone into during a heavy honey flow and the combs in the brood chamber are removed for examination and supers rearranged, this must surely interfere with the work of the bees. It would be interesting to know how many pounds of honey are lost when a large apiary is checked through during a honey flow.

Of course, we must examine our bees for disease, for queen cells, failing queens, stores, etc. However, unnecessary and unintelligent hive manipulation should be avoided.

Let Bees Feed Themselves

Honeybees in their natural habitat, hollow trees, walls of buildings or crevices of rocks, under normal weather conditions, store enough honey and pollen during the warm weather months of the year to last them during the cold months. Man has commercialized the activities of at least a part of the honeybees by placing them in so-called modern sectional hives. In some instances, bees in modern hives may not fare so well as bees in their natural environment, because the owners of the bees, anxious to get all the honey possible, do not leave enough honey with the bees for winter food.

The old method of taking away most of the honey in the fall and feeding sugar syrup for winter stores is gradually giving way to the food-chamber method of feeding. How simple it is to let the bees feed themselves! The food chamber is an extracting super (either, shallow or deep) filled with honey, reserved for and left with each colony, in addition to what honey there may be in the brood chamber. This simply means wintering each colony in a double-story hive. This method of feeding does away with the fussy feeding of sugar syrup.

An added advantage of the food-chamber hive is that it furnishes more comb space for the storage of pollen, which is so necessary for the welfare of bees, especially early in the spring, when cool, rainy weather may not permit the bees to collect it from natural sources.

Much work and worry can be avoided by using the food chamber, making it a permanent part of each hive's equipment.

Winter Packing and Top-Entrance Hive

J. F. Norgren

The Top Entrance Appears to Enable Bees to Control Ventilation to Their Liking

There are at least five fundamental factors in the progressive management of bees. Lacking anyone of the five, beekeeping goes somewhat on the hummer as a profitable business. On the other hand, if the five fundamentals can be kept in 100 per cent condition, honey production continues to be a pleasant and desirable occupation, singularly free from trivial misalignments and perpetual troubles that wear a fellow down.

As I see it the five leading requirements of good beekeeping are: young queens, abundant stores (pollen and honey), good equipment, a good location, and an inexpensive and efficient means of winter packing. Take any colony and supply it with these fundamentals—then try to stop it from producing more than 100 pounds surplus. You can't stop 'em.

Winter packing here in the North is as important as any of the other four factors. Since I have tried most of the simple forms of packing that I've heard of and been able to think of, and have discarded one and another with ultimate disgust, I am forced to believe that a large proportion of winter losses are due directly and indirectly to a deficiency in the method of packing.

Two-story Top Entrance vs. One-story Bottom Entrance Wintering

The accompanying photograph of a two colony, double-story, top-entrance pack is of a type which I believe has many excellent qualifications. I used five of these packs last winter and the 10 colonies came through as well as any one could desire with dry, bright combs and surprisingly few dead bees on the bottom boards. In another group of 10 single-story colonies wintered in packed metal cases with bottom entrances (cases cost $2.50 each) the loss was 30 per cent. The last mentioned colonies were superior as to age and condition of queens and number of bees at packing time and had sufficient honey to carry them well into the spring. However, upon spring inspection I found several to be low in supply of pollen while it was exhausted in those colonies that failed to live through. Pollen is undoubtedly a vital factor in the continuation of the colony. To avoid danger of possible food shortage there seems only one answer—double-story wintering.

The Entrance Satisfactory Thus Far

The qualifications of the top-entrance packs pictured here as yet must rest largely on a case of logic. One trial is hardly enough to definitely approve this method of packing or condemn other methods, yet it showed up so satisfactory in my experience that I plan to pack all my colonies in this way the coming winter. Certainly, packing is quickly and easily accomplished with the method.

In using top entrances it is necessary to have the bottoms of the hives packed as nearly air-tight as possible. I used solid blocks in the bottom boards and tamped the packing material securely, especially around the bottom. This eliminates drafts and the bees can practically control the condition of the inside air to their liking. Vapor given off by the cluster, tending to rise, goes up the flue-like top entrance. On the extremely cold days we had last winter I observed several of the entrances were nearly frosted shut, making almost an air-tight seal to the hive. When the cluster became uncomfortably warm or needed air their activity melted the frost to allow the necessary circulation.

Construction of Entrance

The vertical passageway in most of the entrance units I used was less than an inch square. This I found to be too small after the weather warmed in the spring. Hereafter I plan to make all units of two pieces of 1" x 4" lumber, 14 inches in height, spaced apart with strips so the passageway will measure about ¾ inch by 3 inches. Three 1" holes will be drilled near the top so the bees may travel in and out without congestion. During midwinter two of the holes can be corked or covered to further conserve colony heat. The upright portion of the entrance unit is nailed to a base of 1" x 4" lumber, which is to set across the hive over the escape hole in the inner cover. This base may be cut 14 inches long so as to fit be-

tween the rims of the inner cover, or it may be cut 16 inches so that a fine nail can be driven through each end into the rim of the cover if it is desired to use the covers in the reverse position on the hives (rims down). Nailing thus will prevent displacement of the units while the hives are being packed.

Packing Material

The rack for holding the packing material (I use straw) is made in four sections

Top entrance pack for two two-story hives.

which are held together at the corners with wire loops. Each rack requires 28 laths. The front and back sections are cut 44 inches long and the end sections 32 inches long. This allows a six-inch packing space around the two hives when they are placed together, side by side. The sections are 32 inches high. Pieces of laths left in cutting the end sections can be used to reinforce the two longer sections as shown in the photograph. If the racks are dipped in crank-case oil or other preservative they can be stored out-of-doors with little depreciation.

Cost of the laths in each rack amounts to about 25 cents and lumber in the entrance unit will not cost much more than five cents. Together with the outer covers, a couple of feet of tar paper can be used to top off the pack and shed water if, perchance, it should ever rain again. Summer hive stands can also be laid on the tar paper to hold it in place.

Junius, South Dakota.

[The top-entrance hive for wintering bees may have some advantages over the bottom-entrance hive and it may have some disadvantages as well. We tried one top-entrance hive one winter here at Medina and we couldn't see that the colony in this hive wintered any better or worse than colonies in bottom-entrance hives. Mr. Norgren in his article is simply telling his experience with his top-entrance method of wintering. He apparently likes it.—Editor.]

The Worst Bee Killer in Years

C. H. Pease

Future Losses May be Averted by Practicing Proper Wintering Methods

The winter of 1933-34 will linger for many a year in the memory of the beekeepers in the northeastern part of the country. And why wouldn't it? Thousands of colonies perished for no cause whatever except neglect on the part of their keeper; other thousands that were wintered outside died in spite of care, food, good hives, and everything else.

I have been convinced for a long time that P. T. Barnum was right when he said, "people like to be humbugged," and it seems quite probable that many beekeepers like to lose their bees. I say this because I know personally of instances in which, by a little work, effort, and small expense, a safe and satisfactory repository could be made to winter bees 100 per cent perfect every winter, regardless of weather. Yet these same beekeepers who know it can be done, and know that it is being done, will not do it, but continue to lose their bees year after year. Their losses this one winter would, in many cases, more than cover the expense and labor of providing a safe wintering place for their bees, and insure themselves for life against the catastrophies of last winter—but they don't do it.

Several apiaries within a few miles of me lost every bee and the losses from our state (Connecticut) have been estimated at more than 50 per cent. In Rhode Island 90 per cent were reported lost; New Hampshire reported about 2000 colonies lost. And so it goes all over this part of the country.

The May issue of the American Bee

Journal, page 233, had this to say: "In the northern sections where the heavy snows and prolonged cold lasted, bees which were wintered out-of-doors have suffered heavy losses. Cellar-wintered bees seemed to have come through in excellent shape." Is this not a fine recommendation for cellar wintering?

At the spring meeting of our state beekeepers' association the reports of losses and consumption of stores were appalling. The excessive amount of honey the bees consume would, in most cases, go a long way toward building a cellar, and as a cellar has to be made but once, think of the cash that could be saved every year after the first.

A Remarkable Cellar Wintering Record

I am not a big beekeeper, but one of the little fellows. After standing my share of winter losses up to 1922 I came to the belief that these losses could never be averted with any degree of certainty by wintering outside, but that there must be a way of giving the bees the conditions they need, in a properly constructed cellar. I began experimenting, my first experience being in my mother's vegetable cellar, with old carpets to exclude light through the doorway. While there was some spotting of the hives in the spring every colony came through in fairly good condition and built up well for the clover flow in early June. In this crude improvised cellar one winter and my present cellar eleven winters I have wintered an average of over 47 colonies for twelve years (a total of exactly 564) without the loss of one. This is not boasting, it is only stating facts, and, as I have a complete record and history of every colony and every queen to prove it, I feel perfectly justified in saying, a la Ripley, "believe it or not."

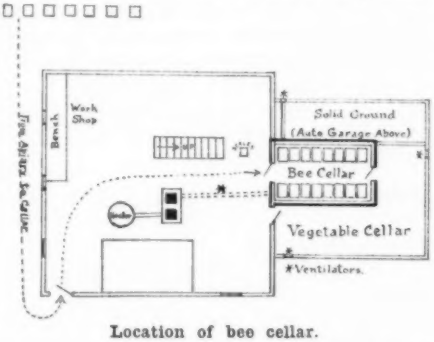
The cellar-winterer, with a properly constructed cellar and the know-how to manage it, knows exactly where he is at, and there is no guesswork about it; he cares not what the winter is; all winters look alike in the cellar where conditions can be controlled to a nicety, and he laughs at such winters as the last one.

Bees Consume Little in Cellar

I weigh every colony when it goes in in the fall and when it comes out in the spring, and know exactly how much each colony has consumed—for several years it has averaged seven and a half pounds. I feed about 15 pounds of sugar syrup late in October, which they store in the cells vacated by the last emerging brood, leaving all of the honey previously stored in the brood chamber. The syrup, stored last, is consumed first and carries them through

Entrance to main cellar, en route to bee cellar. Part of apiary in the background.

the winter in perfect condition, and the honey left in the brood chamber is there for brood rearing in the spring. I have been accused of extracting honey from the brood chamber and replacing it with sugar syrup. To this I want to say that



Location of bee cellar.

I was never in my life guilty of robbing the brood chamber of one ounce of honey. As 15 pounds of syrup consists of ten pounds of sugar, my total cost for winter food has been less than fifty cents per colony.

Never did my bees come out in as fine condition as this spring. They had no discomfort, were absolutely quiet, and did not buzz one minute during the whole winter. This I know because, when going to attend the steam heater in the main cellar I would always "stop, look and listen" at the bee cellar door, and frequently step in with a flashlight and observe through the wide-open entrances the clusters of contented bees waiting for "the good old summer time," absolutely ignorant of the blizzards that were "blizzing" outside.

Just an Ordinary Cellar

While I consider that wintering 564 colonies without losing one is nothing to be ashamed of, I want to say that my cellar, under my house, is far from an elaborate affair, in fact, it is so crude that I dislike to show it to anyone—it was made to produce results, not as an ornament. Second-hand lumber was used and the work was done at odd times (rainy days, etc.), and the money spent for new materials was less than the cost of two colonies of bees. Doubtless many are so situated that they could not spare a part of their house cellar to partition off for bees, but "where there's a will there's a way" and for the few colonies that most New England beekeepers have, if nothing better can be provided, an underground excavation through and outside the cellar wall, with ventilators to regulate temperature, would be a big improvement over leaving the bees out and finding them dead in the spring.

The big beekeeper has enough at stake to afford a specially built cellar, similar perhaps, to the one at the University of Minnesota, which holds 400 colonies, in which Prof. Jager stated in the December, 1925, Gleanings, that "no normal colony has perished in five years." Prof. Jager also said, in the same article, "today we may with certainty predict in the fall how our bees will come through to spring." To this I say: Amen.

My bee cellar is supplied with adequate cold ventilation from the vegetable cellar and warm from the main cellar, while a pipe connected with the chimney is continually drawing air out, which, by means of a "switch" draws cold and dampness from the bottom or warm from the top of the bee cellar as occasion requires. These ventilators, however, are seldom changed, and only when extremes of outside weather demand it. A thermometer inside, but visible from outside through the door, tells us the temperature inside.

Will Continue Present Wintering Method

When any beekeeper can show me anything to be gained by any method of out-

View of backyard and apiary of C. H. Pease.

side wintering, as compared with my inside method, by which I put to rest sixteen colonies in the time that one beekeeper told me it took him to pack one, I might consider the outside way, but until then I am going to stick to my present method which for twelve years has saved every colony I owned.

But, you say, last winter was exceptional. Yes, but do you know we will not have more exceptional winters? And perhaps the next one?

In conclusion, let me say that, thanks to my cellar that saved my bees, I have harvested this season the best crop of the finest comb and extracted honey I ever took off the hives, and, due to the fact that many of my unfortunate brother beekeepers for miles around lost all of their bees, their customers have come to me, and my entire crop of comb honey that I thought would last until the 1935 crop came in, is now (September 5) all sold, the best of it at $7.20 a case, and the balance at $6.00.

Canaan, Connecticut.

A Study in Signs

K. A. Gallant

It Takes a Good Sign to Make 'Em Look, Stop, and Buy

To catch Dame Fortune's golden smile,
Assiduous wait upon her,
And gather gear by every wile,
That's justified by honor.
—Burns.

In times like the present, when Dame Fortune's smiles are few and far between, the above counsel, written some 150 years ago, is still excellent and timely advice. In completing a trip of over 6000 miles last autumn, it was the writer's privilege to see and compare roadside stands, booths and signs of various kinds from California to New York. It is with the hope that this information may prove of some value to the reader, enabling him to "catch Dame Fortune's golden smile" and so "gather gear," that this is written.

As beekeepers we are interested in promoting the use and sale of honey and in doing this we resort to advertising in one way or another. Whether our advertisement be a small, simple sign in front of the beekeeper's home or a pretentious honey stand, the "golden smile" comes most often to those who observe certain elements of advertising. For our purposes it may be well to call them the "Look, Listen, and Stop" elements.

Catching the Traveler's Eye

With modern traffic passing over our roads at speeds easily averaging 40 miles per hour, a sign must have some very definite quality in order to possess the "Look" element and to catch the traveler's eye.

One of the easiest ways to give a roadside sign a distinctive "Look" element is by means of contrast. This contrast may be obtained easiest through color. Of all those seen on the entire trip, the signs painted in black and white gave this effect to a superior degree.

Once the attention has been arrested the "Listen" element starts to function. Since our purpose is to sell honey, the word honey should figure largely in the sign. In many cases it was the only conspicu-

An excellent sign owned by Mr. L. A. Depew, Auburn, N. Y. For neatness and visibility it is hard to beat.

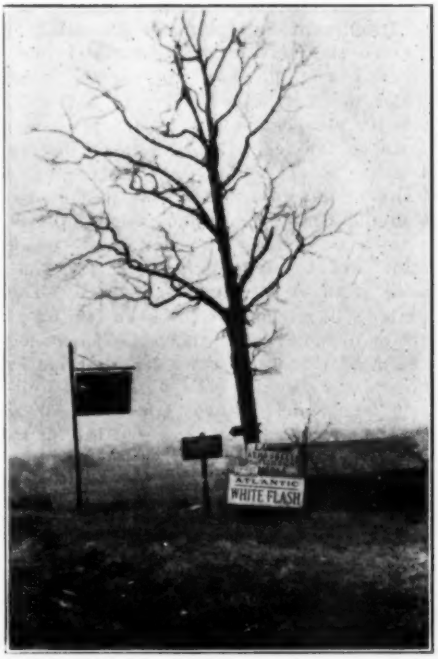
ous word used. In others the name of the producer, or perhaps the words "Pure Honey," were used. Obviously, very little can be read while passing at 40 miles per hour and the briefer the better. Too many words should not be crowded onto one sign. The vertical sign shown below is an excellent illustration of this.

Tersely Worded Sign Effective

In this connection it might be well to warn against another kind of crowding. Notice the picture in the next column. Gasoline, lunch, honey, and wearing apparel are all crowded together and note how the honey sign suffers by the arrangement. When such a situation occurs the beekeeper can easily move his honey sign ahead. Being right on the ground he can correct such a condition at once, if he but choose to do so. This is a very good sign, too, for although it is obviously weathered, still the word "Honey" stands out well. White letters on a black background transcend all other color combinations for giving contrast, as white tends to reflect light and the black tends to absorb it.

This is an excellent sign, but due to its being located in line with the telephone pole, its usefulness is largely limited to westbound traffic.

The "Stop" factor is a quality obtained through position and almost impossible of incorporating in the sign itself. The motorist has noticed the sign, read its message and still has to decide whether or not he shall buy any honey. Beekeepers are fortunate in having a minimum of sales resistance with which to contend. Even so, when a person in a swiftly moving car passes a sign advertising something he wants, he doesn't always stop for it. "There may be another place up the road. Let's drive on." Haven't you ever heard that remark?



If the honey sign shown were brightened up with some fresh paint and moved a few rods away in advance of the others, its value would be more than doubled.

Approach Signs Important

Inertia is defined as "Resistance to motion or change of motion." Our honey sign has to overcome not only the physical inertia of a swiftly moving car, but also the mental inertia of the driver, before it can be brought to a stop at your honey stand. For the driver first has to decide definitely that he wants to stop before any effort is made to do so. By placing the honey signs at least a quarter of a mile away on the highway on each side of the stand or house from which the honey is sold a big step is taken in the right direction. Does a quarter of a mile seem too far? At the average speed mentioned it would take a motorist just 22½ seconds to travel from the sign to the stand or house. Assuming he saw and read the message before coming

abreast of it he still has but a very short time in which to decide whether or not he wants any, and if so, to slow down his car and stop. This particular criticism does not apply so strongly to those living in towns or villages where traffic moves slower in the corporation limits.

Intelligent Salesmanship Essential

Once the traveler's interest has been aroused and he has approached your stand the battle (of wits) is not won. Many a prospective purchaser has pushed down on the accelerator again on finding a dirty, slovenly and unattractive sales stand or attendant. But assuming everything is neat or in order, do not disappoint a customer with "Our honey is all sold." When the crop is sold get some more or cover the signs temporarily. The writer still remembers the keen feeling of disappointment and disgust experienced when, after driving to two different houses to buy some apples (the sign didn't indicate which one) he was met at the door by an individual who answered the query with a most superior and indifferent manner, "Oh, no! Our apples were all sold long ago." Such a reception does not bring repeat orders.

A Good Parking Place Helps

Not the least requisite is a safe and easily accessible parking place for the car while its occupants are buying your products. Notice the roadside stand of Mr. and Mrs. A. L. Mathews of Ceres, California. The building itself is well made with a large amount of glass to permit the traveler to see the honey within. This stand is located close to a broad highway with plenty of parking space all around. Even a conspicuous and well placed stand like this is flanked on each side by advance signs one-half mile away notifying the tourist or city visitor that honey is for sale ahead. With an attractive stand like the one shown, well advertised and neatly kept, it is easy for the traveler to stop.

To summarize, neat signs with bold, contrasting lettering, placed at a sufficient distance from the stand or house to permit the public to decide to stop before actually passing the place, coupled with an attractive, neat sales place and attendant, will go far toward bringing such a producer his full share of customers. Others are doing it, you can.

Cato, New York.

A "disappearing sign." Approaching this sign along the highway it tends to disappear behind the smaller maple and was completely covered from view just when it should have been most conspicuous.

The roadside stand of Mr. and Mrs. A. L. Mathews of Ceres, California. Although this attractive stand has a high degree of visibility from both directions, still auxiliary signs have been placed a half mile away in each direction.

"Cold Turkey"

W. H. Hull

House-to-House Selling Not So Bad When You Once Get Started

Selling from house to house—"cold turkey," as it is sometimes called—is not an attractive job to most men. I never met any one who really liked it. But some dislike it less than others, and occasionally there is one who dislikes it little enough, or perhaps finds it profitable enough, to make it his regular business. My experience, not unlike that of many others, has been that it is like a plunge into cold water. Once in, we don't mind it so much; may even find a certain exhilaration in it. But let anything come up to stop us for an hour or two, and to begin again is like taking a second plunge after you have dried off. I notice that even the most hardened bell-pushers hesitate under those circumstances.

For the average beekeeper this form of selling is best used as a sort of reserve outlet for his selling activities—perhaps also as a reserve source of income in emergencies. The experienced man, in driving about through the country, will pick out here and there promising localities for "cold turkey" work. Then when he has a bill to pay, a note to meet, or something he must buy, and no money, he will load up his car, head it toward one of those places, and go to work.

Finding Regular Customers

The vogue for selling from house to house seems to run in waves. For the past two or three years, contrary to what one might expect with so many men without regular jobs, there have been comparatively few of this type of salesmen. There have been plenty of hucksters, men who raise some fruits and vegetables, buy from their neighbors enough to fill out their stock, often some honey, then sell from house to house. That, however, is not strictly speaking "cold turkey"; for after the first few weeks they learn who will patronize them and who won't, and it means simply making the rounds of certain regular customers.

That is what will happen to the honey salesman too, but with this difference: Where the peddler of farm produce covers his route every week the honey peddler will find it profitable to cover the same territory not oftener than every six weeks, and more likely every two months. That may not have been true in flush times. All I can say is that it is true now. Many a small jar I have sold and been informed six weeks later that "we still have some left." It was good honey, too. They were all agreed on that point.

It is this fact that makes it impractical for the beekeeper to sell from house to house continually, unless he likes it well enough to do just that. There are many people who will tell you frankly that they don't like honey and don't want it, and many others who will tell you frankly that they have no money with which to buy. Since it is useless—to say nothing of being bad policy—to argue with these, an active man will pass on without loss of time. He will make from 100 to 150 calls a day. In two months there are 50 working days, which means that you must have six or seven thousand families to start on, to keep you busy.

Consider also that there are only certain types of people that it pays to call on at all. Very poor people are obviously bad prospects. One also finds certain neighborhoods that do not take kindly to the house-to-house salesman. Well-to-do people, especially if they are inclined to "put on dog," are not good prospects for the honey man. It is hard to sell to rich people anyway, on account of having to deal first with the servants, though one finds notable exceptions to this rule, usually among those who live in the country. Suburban or outlying districts occupied by middle class people are best.

Thus, we see that a large territory is necessary to keep one working steadily. Furthermore, after about the second time around at least two-thirds, and quite possibly as many as four-fifths, of the families that you called on the first time will have been found hopeless. You will eventually have to cover three or four times the original amount of territory.

Returns Rather Meager

The returns for cold turkey work are not large. If you can clear from $3.00 to $3.50 a day above the bulk price of your

honey and the cost of containers, you will be doing pretty well under present conditions. There is no money in that, of course; not even very good wages. The real profits will come as you gradually work out of the cold turkey class and find yourself serving a carefully selected list of regular customers. The fact that you cover your route only once every two months is now to your advantage, since it enables you to take care of several thousand customers, each of whom is a good prospect for a sale on every trip. While some will buy only small jars others will buy quarts and pails, often several of each. I find that it pays to carry both quart jars and five-pound pails, as some customers prefer the honey in glass. I find no use for ten-pound pails. Two 5's answer the same purpose and are less cumbersome.

Chunk Honey Sells

It pays to carry both comb and extracted honey and give people whichever they want. During the summer and fall an especially good seller is the quart jar of standard chunk honey—a piece of well-filled and capped comb as tall as the jar and as wide as will go in at the mouth, and the jar then filled up with extracted. You will sell many of them just on their appearance to people who would not otherwise buy. They are especially effective on a bright day, and if you have your choice of doors it pays to choose one on the sunny side of the house. In winter this pack is not practical, except for special orders, because of the tendency of our honey to granulate.

Having secured your customers you can increase the amount of honey they will want by a judicious use of good honey literature, such as that put out by the American Honey Institute. The folder called "Honey Helpings" is a good one to start with. It has space on the back where you can stamp your name and address, and another space where you can stamp your price list if you want to. It makes an admirable handout to go with your first sale.

As spring comes on with its fresh garden truck the demand for honey will slacken. That is just what you want, as there will be work in the apiary demanding your attention for the next few weeks. If you explain this to your customers on your last trip in the spring they will be glad to wait until you get around with the new crop, along in late summer. They like to think of you working with the bees, because they know that as long as you keep that up they can depend on you for good honey.

Vienna, Virginia.

The Michigan Field Meet

E. R. Root

The Royal Manner in Which Beekeepers Were Entertained at the Kellogg Plant

There is a man in Michigan by the name of Kelty who has the reputation of making things move—sometimes by hops, skips, and jumps. Certainly in the line of bee tours over Michigan he makes "kangaroo" jumps. It is this kind of a leader who is now head of the American Honey Institute and who has made the Michigan beekeepers' tours such a success.

The tour this year, in spite of drouth and depression, lasted four days and covered nearly a thousand miles with five stops at strategic points. It was voted everywhere as the biggest and best ever held. There was something new and novel at every stop and yet during the whole of it, the leader, Russell H. Kelty, was for the most part out of sight—probably planning for the next big jump.

In our last issue I covered the Demuth Memorial part of the proceedings. This time I wish to take in only the first two laps, first stopping at Ypsilanti at the home of our old friends, the Markhams, and right here it is pertinent to remark that we don't know which is the more active, the "Mr." or the "Mrs." Perhaps it is not best to say.

The accompanying pictures, with the legends beneath tell the story in brief. In spite of the severe drouth in Michigan there was a large attendance. The big tent during the discussions was crowded to the outside leaving many standing.

Fig. 1.—Prof. H. F. Wilson of the University of Wisconsin, at Ypsilanti, explaining the needs of American Honey Institute and how it could expand its work if it had more funds. See page 624.

Mrs. Jensen as usual captured the crowd with her story of the activities of the American Honey Institute. In Fig. 1 we see Prof. H. F. Wilson of the University of Wisconsin and chairman of the Finance Committee of the Institute explaining the needs of the organization and how much more it could do if it had the funds. Wilson was the one who "discovered" Mrs. Jensen in the first place and later helped place her where her abilities could be of such great service to the beekeepers. Everyone who left Ypsilanti for the next jump to Battle Creek felt that he or she had been well entertained —certainly more ready for a good season when it comes.

Battle Creek, or more exactly the magic name of "Kellogg," brings a thrill of gratitude to every beekeeper in the land because over two billion packages of Kellogg's ready prepared foods have carried the gospel of honey to millions of consumers, not once but many times. Tons of literature on honey and how to use it on foods prepared by their Miss Barber have been sent out without one penny of expense to the beekeepers. Besides all this, the Kellogg Company has given the American Honey Instiute and Mrs. Jensen the use and facilities of its booths at food shows and bee conventions all over the land.

Here we were that morning on August 2 at the great Kellogg plant that voluntarily and long before the N. R. A. was ever conceived, shortened its hours to four shifts of six hours each and increased its hourly rate, thus giving all the employees the same weekly pay and more people work. In the plant itself is a nursery for the care of children while their mothers work and at not one penny of cost to the parents. If there is any man in the country who is carrying out the underlying principles of the Golden Rule it is the founder of the Kellogg Company, Mr. W. K. Kellogg himself. The younger man, the grandson, John L., a power in the great organization, seems to have

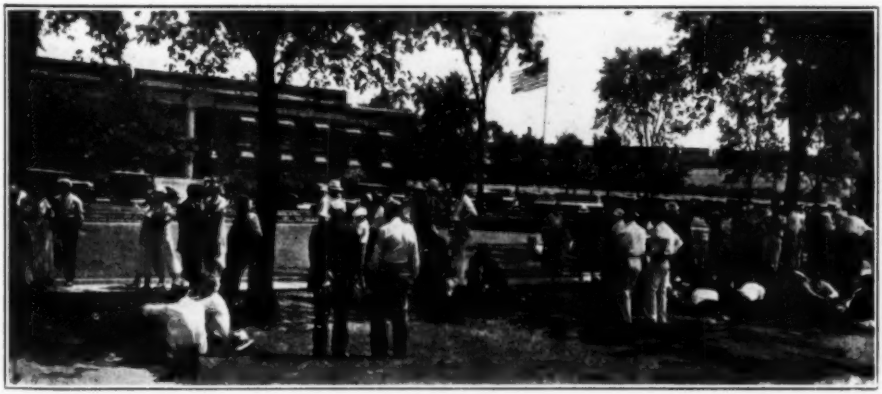


Fig. 2.—Beekeepers enjoying side chats after going through the Kellogg plant.

the same broad vision of being a brother man to his employees as well as helping the outside world to live better and longer through the medium of nutritious and health-giving foods with the suggestion that honey will go well with them.

Gleanings is sure it is here voicing the thanks and good wishes of nearly a million beekeepers in this country who are sounding the praises of Kelloggs for what they have done and are doing in letting the world know about the virtues of honey. They will not forget that one good turn deserves another.

Mr. W. K. Kellogg.

It took not a little persuasian to get a picture of Mr. W. K. Kellogg, and Mr. John L. would let us have only a wee picture, both of which we are reproducing. So much for an introduction to the Kelloggs.

John L. Kellogg.

Beekeepers in spite of the drouth came from all over the state to see the big plant inside and out. To watch those great machines manned by skilled employees preparing and packing the ready-to-eat foods is indeed a revelation to one who has never seen it. The beekeepers and their families were escorted through in groups where each process was explained. After going through the plant the beekeepers assembled in groups on the spacious parks between buildings. Fig. 2 gives one an idea of how they met face to face in these little unconventional conventions to talk over their own personal problems, problems that could not come before a general meeting. These little side chats are often worth more than a whole session of formal addresses.

Next came the honey luncheon served to over two hundred guests. The following is the menu:

HONEY, HONEY, EVERYWHERE

First Event—Beekeepers' Reviver. Tomato juice, lemon juice, honey flavored.

Second Event—What Honey Does for Ham, with accompaniments.

Third Event—All-Bran and Honey Get Together (honey muffins).

Fourth Event—Honey Sundae a la Kellogg, assisted by Institute Specials.

Fifth Event—Kaffee Hag Cooler, sweetened with honey.

Music by Cereal Serenaders.

These tasty foods were fine, especially the "All-Bran Muffins" with honey, that would melt in the mouth. The word "delicious" is hardly superlative enough to describe the honey-flavored foods.

Of the luncheon and of all other events of the day at Battle Creek, Miss Mary I. Barber, the dietician of the Kellogg Company, was the presiding genius who looked after the comforts of the guests. She needs no introduction to the beekeepers of the country. She and Mrs. Malitta F. Jensen of the American Honey Institute are the two best known, and I think I may say without fear of contradiction, that they are the most loved of the women in the bee world today. At bee conventions and at food shows they always command attention. Following this luncheon in the banquet hall they certainly sold honey to the crowd assembled.

Miss Barber revealed the plans of the Kellogg Company for boosting honey in 1934 and 1935. Such a program if carried out by a regular advertising agency would run up into a figure that would be clear beyond the whole budget of the American Honey Institute several times over, but the Kellogg Company pays the whole bill. We are hoping, rather expecting, these two women can be at the International Congress of Beekeepers at Valdosta, Georgia, next December. They would be a big inducement in drawing a

crowd—a crowd that would give both a warm welcome. (Fig. 3.)

But undoubtedly the great event of the day at Battle Creek was the address of welcome by W. K. Kellogg himself, a

Fig. 3.—Mrs. Malitta F. Jensen and Miss Mary I. Barber need no introduction to beekeepers.

man who is seldom seen in public places and who has never but once before given a public address and that was on the occasion of a similar gathering of beekeepers. The significant thing is that "honey" is the only thing that will make Mr. W. K. Kellogg talk in public.

How he became interested in it is simply and modestly told by him. It is a story worth repeating. I said to him at its close, "You may have personal reasons why you do not wish to have this address published, but if you have no objections I would like to place it before our readers of Gleanings." He promised to let me know. His consent has now been granted and here is the address:

It has been suggested that the members of this association might like to know just how the Kellogg Company happened to become interested in honey. I will endeavor to tell the story briefly.

During the late war when sugar was high in price and rather scarce, Mrs. Kellogg and I decided that we would use honey as a substitute for sugar. We found after a short time that honey agreed with us better than sugar, and that it was fully as agreeable a sweet as sugar.

The winter of 1918 we spent in California, and while there Mrs. Kellogg learned of a recipe book for the use of honey in cookery. On returning to our home in Michigan, I addressed a letter to the A. I. Root Company at Medina, Ohio, which firm I had known for many years, having been acquainted with the originator, Mr. A. I. Root. Some time after mailing my inquiry I received a letter from Mr. Ernest Root, who at the time was on the Chautauqua Circuit in Florida.

Mr. Root mentioned in his letter the fact that he was using some of the Kellogg products. In reply to Mr. Root I mentioned that we were using honey in many ways in our family. The cook book was duly received and made use of.

During the late spring of 1918 Mr. Ernest Root called on us at Battle Creek and in our conversation it was mentioned that honey producers were not enjoying great prosperity, due to the fact that there was an over-production of honey. I think that he stated that honey could be obtained in carloads at 3 cents a pound.

I expressed a thought to Mr. Root, to the effect that I believed the Kellogg Company could do some missionary work for the honey interests. The proposition was that we print on each of our cartons a recommendation that the cereal be used with honey. Later it was suggested that we might add to the advertisements something along the same line suggesting the use of honey with the Kellogg products.

I have learned upon inquiry, that 2,500,000,000 cartons have carried the phrase, "Try Using With Honey," and that honey has been mentioned in advertisements over 25,000,000,000 times.

Mr. Root and others have very generously given the Kellogg Company credit for having been of considerable help in bringing about a better condition in the honey trade.

I was told recently that the price of honey at the present time is nearly double what it was at the time referred to. I do not think that the Kellogg Company should take credit for all of this marked increase in price. Just at present I understand there is a shortage of honey due to drouth in various territories.

In our home we use no sugar. We use honey in preparing jellies, marmalades, for canning fruit, and for pies, cakes, cookies, etc.—in fact,

Fig. 4.—Dr. E. F. Phillips in the middle background talking to a group on the Kellogg lawn. O. E. Barber is shown at the extreme left.

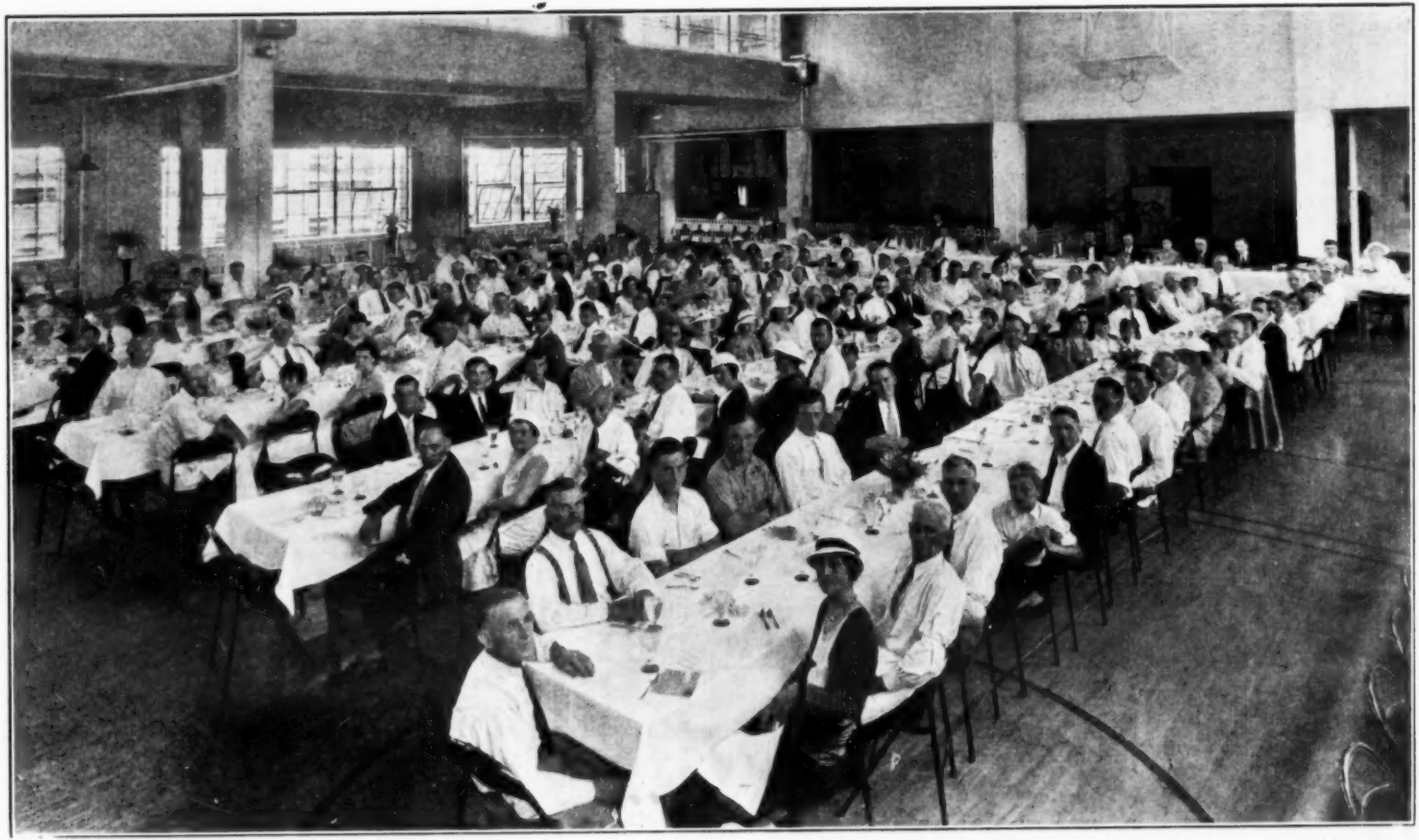


Fig. 5.—Beekeepers' meeting and luncheon in the Kellogg Recreation Hall, Aug ust 2, 1934. Over 200 beekeepers and their wives are shown. Everything served contained honey and, as the guests will testify, it was all delicious.

for all purposes for which sugar was formerly used.

I recall some years ago I was presented with a birthday cake, which although nicely frosted, contained not a particle of sugar.

The Kellogg Company feels that "bread cast upon the water" in the honey interests, has not only been returned many times, but has been returned spread with honey. I was informed recently that more than 1200 producers of honey mention on the labels used on their packages, that honey can be used in combination with the Kellogg product.

While we had nothing in mind at the time of offering the suggestion to Mr. Ernest Root, with reference to any benefits that might accrue to the Kellogg Company, we cannot help but realize that our many friends who are producers of honey have been instrumental in contributing to the sale of many extra thousands of packages of the Kellogg foods.

Wherever we travel and happen to meet honey people, we find that our introduction has gone before us, and that we are readily admitted to the Fraternity of Honey Producers.

Honey seems almost like a God-given sweet, straight from Heaven. While we are told that honey is only dew sweetened by the flowers, it seems almost a miracle that such an excellent product can be produced through the intervention of the wonderful little bee.

The bee has been a model of industry for untold ages. Some of the earliest printed works refer to bees and ants as examples for men to follow. The fruit of the bees' labors is a sweet which we humans enjoy and which is wholesome and nutritious. Beekeepers can well be proud of their chosen profession as an old and honorable one.

The Kellogg Company has been proud to show you its plant today. In December, 1930, we adopted the six-hour day (the first factory in the United States to do this). This means that our employees are working in four shifts of six hours each. This is one way in which work has been given to more people than was possible under the plan of three eight-hour shifts. At the same time the wages were adjusted so that the hourly rate was raised and every man now receives a minimum of 67 cents per hour. Our plant was in line with the wishes of the government even before a suggestion of a shorter day was made by N. R. A. officials. The plan has been successful and will probably be continued indefinitely.

I am glad to have had the opportunity of meeting you on this occasion, which I hope will prove a success in every way.

I well remember when the letter mentioned by Mr. Kellogg was forwarded by our office to me at Jacksonville, Florida, where I was to give my Chautauqua lecture that afternoon. In the evening of that day I sat down and penciled a letter covering all the good points I could truthfully name in favor of honey; sent this on to our office at Medina and asked to have it typed and sent on to Mr. Kellogg. I felt at this time it deserved my best efforts and expressed the hope to my wife that it might indeed, in the language of our great benefactor, be "bread cast upon the waters."

Mr. Kellogg, in behalf of all our readers and in behalf of the larger group of 800,000 beekeepers in the United States, we thank you for making the "hope" come true. You have done much more than your modest statement shows.

Medina, Ohio.

Fig. 5.—Beekeepers' meeting and luncheon in the Kellogg Recreation Hall, Aug ust 2, 1934. Over 200 beekeepers and their wives are shown. Everything served contained honey and, as the guests will testify, it was all delicious.

George S. Demuth

Dr. E. F. Phillips

(Continued from September issue.)

After years of rich experience with Demuth, it is a temptation to tell many stories of those days and thus to live them over again. I think that I need not tell this audience that Demuth and I were unlike in many ways. I had been exposed to a scientific training, while Demuth was intensely practical. I was inclined to jump to conclusions faster than Demuth, so he was an excellent brake on me at all times. While I worked more or less closely to all the men of the Bee Culture Laboratory, Demuth and I published several papers together and worked in close association for several years, and the experience was good for me, and I hope that it was good for him also. At any rate Demuth grew more rapidly then than at any other time of his life, but this was largely due to the increasing opportunities to which he was exposed, since he had contact with beekeepers of all the states and to some degree of foreign countries.

After we had made some contribution to the wintering problem, and since we both had some time in summers when we could not work on that problem, Demuth undertook the swarming problem. He set out to study the control of swarming, in which he was highly skilled, in order to find out if possible the proper method of attack on the problem. It will be recalled that during the comb-honey era, many experiments had been tried and many results recorded by the masters of that day on this line of work. There were reports of myriads of swarm control methods, each one usually called by the name of the man who was supposed to have discovered it. Many injustices had been done in the giving of these names, and it was for that reason that we decided that beekeepers

should never attach the name of any beekeeper to either equipment or methods.

Demuth's first step was to make a catalog of references on swarming chiefly from the Review and the older volumes of Gleanings. He found no forward steps along this line after the change to extracted honey, partly because swarm control is easier in extracted honey production but chiefly because beekeepers are apparently no longer interested in devising new methods of management. They think now only of marketing, which has its disadvantages of course, and means that we are steadily losing ground in manipulative skill. After he had all the data together, he began to classify them. One day he announced with some fear but with great joy that there are actually only three methods of swarm control, removal of the queen, removal of the brood, and separation of queen and brood in the same hive. Simple as that seems now, nobody had before taken such a step in analysis. It also became evident that experimentation in a single apiary would never solve the swarming problem, and that the only possible procedure is to use the experience of all beekeepers, culling the good from the bad, so as to find out the answer to the problem which so long puzzled all of us. The result of an attempt of this kind is Demuth's Farmers' Bulletin on "Swarm Control." I am not exaggerating when I say that I believe this to be the finest example of clear thinking on a beekeeping subject which has ever been published. It has had a distribution of 241,988 copies and is translated into French, but I doubt if it has been so widely read. It is hard reading, but the subject is a difficult one and can not be put into simple terms and a few words. It is the outstanding contribution on swarming of the world. A few beekeepers had had an inkling before Demuth's time of the cause of swarming, but the cause remained unknown. To have discovered that cause is a real contribution, after so many years when others tried and failed, and it is a monument to Demuth's skill as a beekeeper and to his clear vision and broad analytical thinking that he solved this problem.

It has come to be generally recognized that while beekeeping is important as an avenue of honey production, its greatest benefits arise from the incidental labor of bees in bringing about pollination of various plants of economic value in American agriculture. The benefits of bees in our orchards have been vastly reduced by the excessive use of arsenicals, and the greatest losses have arisen from the use of poisonous dusts. This problem has been increasing in importance to fruit growers for some years and losses to beekeepers keeping their bees near orchards have been so great in some cases as to necessitate moving to new localities. We thus have a situation in which the action of the fruit grower is injuring not only the owner of the bees but injuring himself even more. The difficulty arises from the fact that the fruit grower is often unaware of his dependence on honeybees. This problem had been attracting attention for years, and finally there came an opportunity in the Bee Culture Laboratory when we could make a start on it. Demuth and McIndoo worked together on this problem and published the most comprehensive papers which have so far appeared on this important question. The puzzle in this situation arises from the fact that bees are not always killed in numbers adequate to be seen, and as a result there is no definite opinion generally as to the danger to bees from the use of arsenicals.

Demuth's devising of methods for the study of his part of this problem was most interesting. He weighed each colony under observation daily before daylight, thus determined the daily death rate as compared with normal and could evaluate the injurious effects of spraying or dusting. This work gave an insight into the number of trips which honeybees make daily to the field, and also provided information along other lines of behavior of bees. His work on the number of trips daily still stands as the most accurate on the subject, although some other workers have undertaken to discredit it.

When one undertakes to controvert any finding which Demuth has published, he should be most certain of his facts and especially his technique, for Demuth was not given to making mistakes of technique in order to arrive at the facts he sought.

Another great contribution of the kind which we should expect from him, was his bulletin on Commercial Comb Honey Production, of which over a quarter of a million have been distributed. Although written right from his personal experience of many years, it is not a mere cataloging of his own methods but a careful analysis of what all masters in comb-honey production had learned. Here again

Demuth showed his ability to think clearly and to state concisely the results of analysis.

Still another phase of Demuth's work in the Bureau of Entomology was important to the beekeeping industry. During the period of the great War, all of us in the Bee Culture Laboratory had occasion to travel more than usual, to meet with many beekeepers and to try to help them adjust their plans and practices to the changing conditions incident to War. The demand for more honey was so insistent that we were called upon to send into the field as many skilled extension workers as we could locate, and in the selection and training of these men, Demuth was of inestimable value.

It soon became a common complaint of the field men that they were not having time enough with each group to present the broad principle, and one by one they recommended a change of program which would include schools of several days' duration. Instead of leaving these schools to the individual field men, since no one man could stand the physical strain of such an undertaking alone, Demuth and I planned a long series of short courses in the general principles of beekeeping practice. We worked out a method of presentation together, the general plan of which was that I first discussed the principles of bee behavior on which the practice for each season must rest, after which Demuth discussed by keen analysis the various practical methods of meeting changing conditions in the apiary. In this work Demuth showed better than at any other time his ability to analyze a series of methods and to adopt slogans which would bring sharply to the attention of beekeepers the right principles of practice. At this time, for example, he stressed the important dictum in beekeeping of raising of bees "for the honey flow, not on the honey flow."

Looking back on this period, one is now inclined to wonder whether the increasing of honey production which then occurred was a good thing for the industry. There has never been any question in my mind that honey production in the United States was quadrupled during the period of the War and immediately following. Now that we hear talk of overproduction, one might conclude that the increase of production was overdone. With this idea I can not at all agree. American beekeepers raised the standard of beekeeping during that period and it has never dropped back to its small dimensions, in fact, there has been only a moderate decline. Far more people know about honey now than formerly, and in spite of the depression through which we have recently passed, more honey has been consumed during the worst years of the depression than in any banner years before the War. Beekeeping moved out of the class of inconsequential branches of agriculture into one of real importance, and the price which beekeepers have recently paid in a relatively small carry-over of honey from one year to the next and in lowered prices is small compared with the benefits to the industry of a permanent nature. It is amazing that with the enormous increase in beekeeping which came as an outgrowth of the War demand, the carry-over has been so small a proportion of the total production.

The short courses which have been mentioned were Demuth's finest opportunity to meet beekeepers and to pass on to them the results of his long experience. From that time on, he was in great demand at meetings of beekeepers in all parts of the country, for the beekeepers had come to know that he was their friend as well as their advisor and guide. It was not only that he never departed from the policy of giving the beekeepers real meat in his talks, but perhaps chiefly because of his genial personality and friendliness that he so easily won his way into the hearts of all beekeepers. He never attempted an oratorical effort and he needed none of the techniques of the professional speaker to win his audiences to his views. In the simplest manner, he stood before the audience of friends and related to them the steps in clear thinking through which one must pass to arrive at the right conclusion regarding any beekeeping problem.

I have elsewhere referred to Demuth's scientific attitude of mind. I have never known any person who so well illustrated the advantage of clear thinking in his presentations. Every one of his listeners within a few moments of the start of one of his speeches must have been impressed by the fact that he knew what he was talking about and that his conclusions were the result of right thinking, and when we couple with that assurance his cordiality, his friendliness and his evidence of a sincere desire to be helpful, his popularity

as a speaker before beekeepers is no mystery.

Following the War, and having come to realize the practical necessity for statements of principles applicable to different regions, Demuth and I undertook to prepare regional bulletins of beekeeping practice. We discussed this a long time before we dared issue the first bulletin. Since Washington is located in the heart of a region of vast potentialites from tulip-tree, and since this source is and has long been lost to beekeepers because of poor beekeeping practices, we finally got up courage to prepare a bulletin on the methods applicable to the tulip-tree region.

We next went to the clover and to the buckwheat regions for similar presentations, and the clover region bulletin has had a distribution of 211,000. I feel sure that it has done good. The clover region is, as everybody knows, the most important beekeeping region of the whole country, producing at least half of the total national crop, and since many beekeepers of this region still used poor methods, it was the right place to try to institute reforms. To a gratifying degree, this effort was successful. The use of two-story hives has grown enormously, making this region today the outstanding production area of the whole country. Our first entrance into a major region was to the clover region because our most progressive beekeepers are located there, so that we expected and were gratified to find beekeepers of that region ready to try experiments. We must remember that in beekeeping as in everything else, change is progress, whatever the change may be.

I have earlier referred to Demuth's life as being full and complete, and I am sure that he lived the life which he desired. If he had remained with us longer, he might have clarified his advice to beekeepers to the advantage of the entire industry by means of a book such as only he could have written. I wish that we might have his advice in a more complete and analyzed form, for while I doubt if he had omitted specific advice on any important beekeeping subject, the application of his methods might have been furthered if he had published them all together. From month to month he published advice such as has not been found in any other journal, and beekeepers of all the country followed his timely recommendations.

In conclusion we may summarize Demuth's work for the beekeeping industry as long years of labor marked by good common sense, a keen sense of the vital importance of scientific thinking and by the clearest analysis ever given to our methods and practices. But above all this was his interest in people. To him beekeeping is an industry made up of folks, and the people were to him far more weighty than methods and broad principles. It is only through application by people that change is possible or growth conceivable, and this fundamental fact Demuth never forgot. His emphasis on people rested not on any general consideration of the importance of individuals in applications of theories but on his personal interest in their individual welfare. His never failing kindness to everybody in the industry is well known and to him a beekeeper was the most important personage in the world.

Words must fail all of us in a tribute to Demuth and to his work. He never reached an age when he could attain reverence from his fellows in the craft because he was just one of a large crowd working together and did not stand out from the standpoint of age. This is exactly as he would have wished if he had had a choice in the matter, for he had no liking for supremacy. Modest in all things and self effacing at all times, he was at the same time the strongest influence for right leadership which the American industry has had at any period of its development. We have had and now have other capable leaders, and I believe that the beekeeping industry will continue to enlist great leadership in the years to come. If ever again we have a leader who can do for the craft what Demuth did, we shall be most fortunate, but I predict that we shall not have such a leader.

If beekeepers forget Demuth's teachings or lose their admiration for him personally and professionally, I shall be disappointed, but I can not believe that he will be forgotten. If because of narrowness of outlook we permit little men to take over his leadership, we shall suffer the consequences, but I have faith that we shall do our utmost to retain for beekeeping the great qualities in our leaders which marked Demuth's life among us. If from his life comes the lesson of the power of strong leadership, beekeeping is safe for the future, and his labors will not have been in vain.

Ithaca, New York.

From the Field of Experience

ONE CAUSE OF HONEY FERMENTING

It Pays to Remove All Left-over Honey from Extractor

Last year I left my honey on the hives, allowing it to ripen well. I extracted on September first and had a great deal of trouble with fermentation. Some of it went frothy in from three to four weeks. Today, while cleaning up my reversible two-frame extractor, I observed that after I had wiped the can very dry, and turned it on its side, a mixture of honey and water oozed out of the cone which supports the rotating basket frame. This was rivited and soldered to the bottom of the tank but the soldering was broken from the can bottom. The bottom at this point runs downward and unless the can was tipped it would not run out. I again filled the can with warm water to a depth of three inches and drew it off. Again a sweet watery liquid came from the cone bottom.

My way of extracting my small crop is to do one super and let it clarify in the extractor and when drawing it off, I tip the can a little.

My belief is that the honey remaining in this cone from the previous year had fermented and each time I drew it off, a small amount of old fermented honey was included. Not all cans showed fermentation. It is well known that a small amount of fermented honey would hurry the action. Of course, I have soldered this up, but it struck me that others have reported this trouble before and heating was suggested as the only cure. True this will stop fermentation even in grape wine.

Those who have been having this trouble would do well to look at this cone and any other dead ends in the large extracting plants where honey may remain and ferment and still not be easily washed out when starting up for the new crop.

In September Gleanings, 1933, Prof. H. F. Wilson in his article, "Some Factors Involved in Spoilage of Honey," states that the "beekeeper should not be held responsible for losses by fermentation, provided the shipment was in good order when shipped." It would seem the above experience teaches us to keep checking ourselves.—C. E. Phillips, St. Catharines, Ontario.

PREPARING BEES FOR WINTER

The Paper Method of Packing Bees for Winter Has Its Advantages

In preparing the apiary for winter a suitable location with adequate windbreak should be chosen. Hives should face the south or southeast and slope slightly to assure proper drainage, so that water may not freeze in the entrance.

Ample stores of good quality should be provided. Young queens should be introduced to assure plenty of young bees to go through the winter and to build up the colony quickly to harvest strength at the proper time.

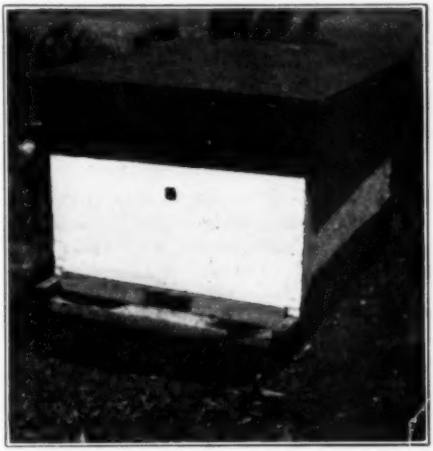


Fig. 1.—Contracting entrance and placing tarred paper under bottom.

It is rather generally agreed that it is the long periods of even cold temperatures that bees do not survive. Bees do stand below-zero temperatures if not continued too long. It is in this connection that the black tarred paper packing can be used to very good advantage. It gathers or draws the sun's rays and warms up the hive quickly.

Fig. No. 1 shows the contracted entrance. A three-inch metal strip is nailed over the cut out of the entrance stick. This prevents mice gnawing their way into the hive. To make the bottom waterproof, the hive is set on a piece of tarred paper, the ends of which extend sufficiently to allow folding up on the sides.

A shallow super containing an absorbent material is placed on top of the hive body. The material used may be chaff, leaves or burlap. A burlap bag may be used rather than the super and preserved

Fig. 2.—Newspaper wrapping.

for future use. If a bag is used it should not rest directly on top of the frames but be placed on slats or strips placed at intervals on the frames, thus giving the bees space to move around and across the frames.

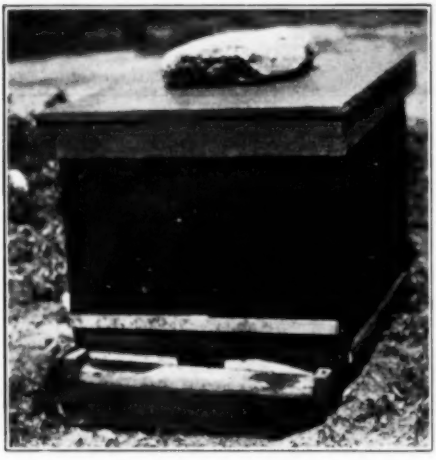


Fig. 3.—Absorbent bag on frames. Tarred wrapping held in place by cleats.

No loose material is used in packing the sides. This further obviates the possibility of mice bothering. Several layers of newspapers have proved excellent for packing. Magazines may be used but are smaller and more difficult to handle. Several thicknesses are put around the sides and over the hive and held in place by means of small nails or thumb tacks, as illustrated in Fig. 2.

The hive is now ready for the outer covering. The tarred paper is applied, folded neatly and held in place by means of cleats or strips as shown in Fig. 3. Twine may also be used. The lid is weighted with a large stone or brick.

If preferred, a tarred paper cap may be placed on top and folded down. The edges of these should be folded down so that no pocket is made to hold moisture. Fasten with strips or heavy twine.

Some beekeepers prefer the high entrance shown in Fig. 4. This is used as a

Fig. 4.—Upper entrance near top of hive. Bottom entrance closed.

safety measure to prevent clogging of an entrance by the bodies of dead bees and another safeguard against mice. The bottom entrance is closed and no absorbent material is necessary. The moisture condenses at the top and passes out readily. A food-chamber is used on top of the brood chamber to insure ample honey.

We wish to repeat—we want strong colonies—in the winter, too. With suitable wintering arrangements they winter with less waste of energy and stores than the weaker colonies which have to struggle to keep up the temperature. Though they consume more honey they are ready to take advantage of early spring flows and thus more than make up for this consumption. They come to harvest strength with far less labor on the part of the owner, stimulative feeding and much manipulation being avoided. A few strong

colonies yield far more honey and require far less labor than many weak colonies.—Benj. Nielsen, Aurora, Nebraska.

[The piece of metal nailed on the entrance cleat to exclude mice is worth while. We have tried it. We do not exactly favor placing top packing material directly over the frames. We prefer to put it on top of inner cover. More packing than Mr. Nielsen uses would be needed for latitudes farther north. As has been stated, a good windbreak is very essential for successful outdoor wintering.—Editor.]

BEES TAKE PITY ON QUEEN

Beekeeper Unintentionally Leaves a Queen to Perish, but Bees Take Care of Her

While requeening some few days ago, an incident happened which illustrates very well the instinctive protection bees give to a queen.

I had several cages with young queens with me. These were laying queens in bare foodless cages without attendants taken from nuclei a few minutes before. While requeening a large colony, which necessitated removing six or seven supers to get to the brood chamber, I laid these cages fairly close (about a foot or so) to the entrance on the opposite side from which I was working.

When through with this particular colony I picked up the remaining queens, but overlooked one which was partially hidden in the a grass a little to one side. I did notice a few bees in that spot but thought nothing of it as I had been shaking several finished supers free of bees.

Three days later I returned with some empty supers. Upon nearing this colony I immediately noticed a cluster of bees in the grass beside the hive. Curious to see just why they were there, I went over, and at once saw the queen cage. It was completely covered with bees. I shook them off and much to my surprise saw the queen very lively and apparently not at all hurt by her experience.

As stated above, this queen was in a cage without food or attendants. The nights were fairly cool and the cage was exposed to the sun at least part of the day. And yet, although the cage was at least 14 or 15 inches from the entrance and the colony had a queen inside, the bees had fed this queen all the three days and clustered so thickly on the cage that they kept her sheltered both from the cold of the night and heat of the day.

If this queen had been liberated in the hive which had a queen, the bees would in all probability have killed her, but while in the cage they made no such attempt.—C. M. Isaacson, Middle River, Minnesota.

ARE CYPRIAN BEES SUPERIOR?

A Limited Comparisen with Other Races Gives Cyprians the Lead

When I was in the sixth grade my agriculture book said that the Cyprian bees held the world's record for honey production. From that day on my desire was to obtain some Cyprian bees. I tried the black bees, then Italians, and Caucasians; although the Italians were very gentle and good honey gatherers, I still wanted to try the Cyprians. Every one that I asked about them and all of the bee books said they were very cross and advised not to get them, but none of them had any first hand information, which amounts to the same thing as some one telling you to stay out of the stock market because some one he had heard of had lost everything.

I finally imported some Cyprians, which left only one of the common races of bees that I had not tried, viz., Carniolans. I then got some Carniolans. I took three queens of the same age, one each of Italian, Carniolan, and Cyprian, and put them in hives of equal strength. I have obtained the same results for two years. Where my Italians would produce 100 pounds, the Carniolans would produce from 125 pounds to 150 pounds, and the Cyprians from 175 pounds to 200 pounds. On April 3 of this year the Cyprians had 35 pounds surplus, the Carniolans 10 pounds, and the Italians, none.

My average this year will be over 200 pounds, which I think is pretty good, for my bees are in the city. On the southwest is the Willamette River, on the north the Columbia River a little over two miles away, and on the east the city extends for about 15 miles. There is a network of lakes between the two rivers so it does not leave a very large territory in which to work. Most of my surplus is from fireweed, the closest of which is three miles away, and the bees have to cross the

Willamette River, which is about a mile wide to get to it. I found my bees working on red clover the other day about three miles from home. This was the second time I had seen bees working on it. I went to a large field of red clover 12 miles from my bees, but found only bumblebees working on it. This was the first time I had noticed the red clover since I started keeping Cyprians, so I do not know whether they work on it all the time, or if there was an unusual amount of nectar in the flowers this season.

Cyprians look very much like Italians except they are a little smaller and move faster. They, as well as Carniolans, are more prolific, build up faster in the spring, work earlier in the morning, later at night, and on colder days than Italians. Cyprians will bring in pollen and nectar in the fall when the other races of bees do not even leave the hives. They worked every week last winter but one. When I examined the bees the first part of December one hive that had been requeened late was very weak and I marked it for feeding. When I looked at them the first of February they had two more frames of honey than they had in December. This hive was one of the best this year.

There is absolutely no robbing with Cyprians. I sometimes put broken combs of honey in front of a hive for the bees to clean up, and I do not have to worry about robbing, but if one should do this with any other bees it would start the whole apiary to robbing and they would keep it up for several days. If robbers come around they do not wait for them to light but catch them in the air. They guard their hives even better than the Italians which is saying quite a bit.

The terrible cross Cyprians that you have heard so much about are no crosser than the average Italians. When opening a hive one should be careful not to jar them, breathe on them, use smoke or make any quick movements, and no veil is needed. After one or two frames have been taken out you can speed up and work as fast as with any other race of bees. I get stung much more when working with Carniolans than with Cyprians, but if one should try to handle Cyprians the same way as Italians he would think they were very cross. I have tried mating Cyprian queens to Italians and Carniolan drones but without exception the resulting bees have been very cross. If one wants gentle Cyprians he must keep them pure.

I have found out one bad feature with Cyprians, and that is propolis. They use lots of propolis but not as much as Caucasians. They do not fasten the bottom of the frames down with propolis as do the Caucasians, but they put it on top of the frames and in all cracks. From this it appears that they would be a good race of bees for cold climates. We do not have cold weather here, but I think they will stand just as cold or colder weather than Italians. For a cold climate I would recommend Carniolans.

With controlled mating I believe that a race of bees could be developed from a cross between Cyprians and Carniolans that would be superior to any race of bees known. The Carniolans would give it size and less tendency to gather propolis and the Cyprians would give it all the other desirable characteristics. A race of this kind would be valuable in either cold or warm climates.

In my opinion Cyprians are very near to the ideal bee. They keep their hives cleaner and protect them better than other bees. There is less disease because of less robbing. All of the apiaries close to me have had American foulbrood but my Cyprians have not had a disease of any kind. They seem to swarm less than other bees for I have not had a single swarm and all that I have done to prevent it is to give them plenty of room, and last but not least, they will produce more honey in a warm or mild climate than any other race of bees found in the United States. I do not say that they will produce twice as much as Italians in any location. In some locations they might produce more than twice as much, while in others there would be very little difference, but in any location they will produce more than Italians.—R. O. Dodge, Portland, Oregon.

BELIEVES HONEY CURED HIM

Pennsylvania Painter Relieved of Rheumatism by Keeping Bees

Whether the steady use of honey benefits all individuals is not the point. Fred Kaiser of Erie, Pennsylvania, was in an accident a number of years ago and while recovering he was advised to take cod liver oil, eat nourishing foods, etc. He says that he began to build up very rap-

idly when he began the steady use of honey. His strength would hold out for almost any amount of exertion after he began eating honey freely.

Mr. Fred Kaiser of Erie, Pa., believes that his bees helped him to recover his health.

Mr. Kaiser also is a firm believer in bee stings a help in getting rid of muscular rheumatism. He is a painter by trade and the rheumatism was so bad that he practically lost the use of his right arm so that he was forced to paint with his left hand. In time his left arm began to trouble him also, but he noticed that after he began to keep bees and got stung occasionally that the rheumatism was helped. He is now entirely rid of it and can paint with either hand.

Mr. Kaiser's granddaughters are not at all afraid of the bees as the picture shows. The older one takes great delight in finding the queen. The younger little girl was almost raised upon milk and honey and today she is as healthful a child as can be found anywhere. Mr. Kaiser and his son are proud of the girls and well they may be.—H. H. Root, Medina, Ohio.

LANGSTROTH MEMORIAL MEETING

This Meeting Was Held Near Dayton, Ohio, on July 14

On the occasion of the thirty-ninth anniversary of the death of L. L. Langstroth, Mr. Ward Ruse, President, and Mr. Penn G. Snyder, Secretary, of the Montgomery County Beekeepers' Association thought it highly proper and altogether fitting that the association this year at its annual meeting should pay its respect to the life and work of this great man and it did, a preliminary account of which was given in the September issue.

During the early days when Mr. Langstroth lived at Oxford, Ohio, he was a frequent visitor at Medina. Mr. Snyder, knowing this, hoped I could at this meeting give some reminiscences of the man

These two young ladies are not at all afraid of their grandfather's bees.

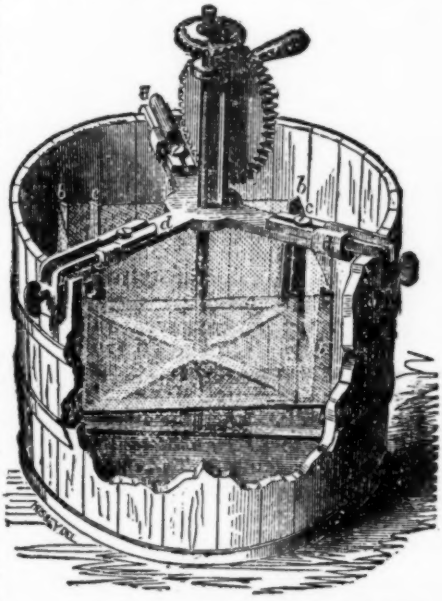
to whom all the modern bee world is indebted. When Mr. Langstroth came to Medina he would talk with my father for hours at a time. I was always present at these conferences and often have I wished that his easy flowing words of early history could have been taken in short hand.

The present generation of beekeepers does not know, nor can it fully appreciate the full measure of Langstroth's invention or his teachings as shown in his book, "Langstroth on the Hive and Honey Bee," written in 1853, or one year after he brought out his hive. It is, indeed, surprising how many new things that we are talking about today are found in that masterpiece written over 80 years ago. It is true that he did not know about the bee smoker, comb foundation, and the bee-escape, but he did write of the value of smoke as a subduing agent and best of all in the line of bee behavior and of bee management he covered almost the entire field in a way that astonishes us who are trying to write about something new in our bee books and bee journals. How he could have mastered the whole subject decades before most of us were born is indeed a mystery to those of us who have had the benefit of later research and study. What he wrote and said has stood the test of time as almost no other writings on bees. In addition to all this was a command of the English language that would do credit to a Washington Irving or an Abraham Lincoln.

Those of us who sat at the feet of this Galmaliel of beedom and listened to his musical flowing words of wisdom, love, and affection know that he was not only a great humanitarian but a philosopher of no mean order. His stories sparkled with wit and humor and his very presence was an inspiration.

But the thing that made him famous throughout the wide world where bees are kept in a modern way was the hive and frame bearing his name. He did not conceive the idea of movable frames or combs. Huber and others preceded him in that; but their frames were almost immovable. Langstroth's great invention lay in the discovery of a bee space approximately $\frac{5}{16}$ of an inch wide—a space that bees will not fill either with glue or comb. It may seem simple, but it took a Langstroth to see what no one else before him saw; namely, that a frame to be really movable must have a bee space all around it and between it and the next frame or frames. Langstroth told me himself that he could hardly rest or sleep until he made a hive embodying the principle of frames to receive the combs bee spaced from each other and from the hive at each end and on the top and bottom. Some of his first hives he built in the workshop of W. W. Cary at Colerain, Mass., in 1852. He was awarded a patent on the hive and frame in 1852. His first hive was made in Philadelphia in 1851.

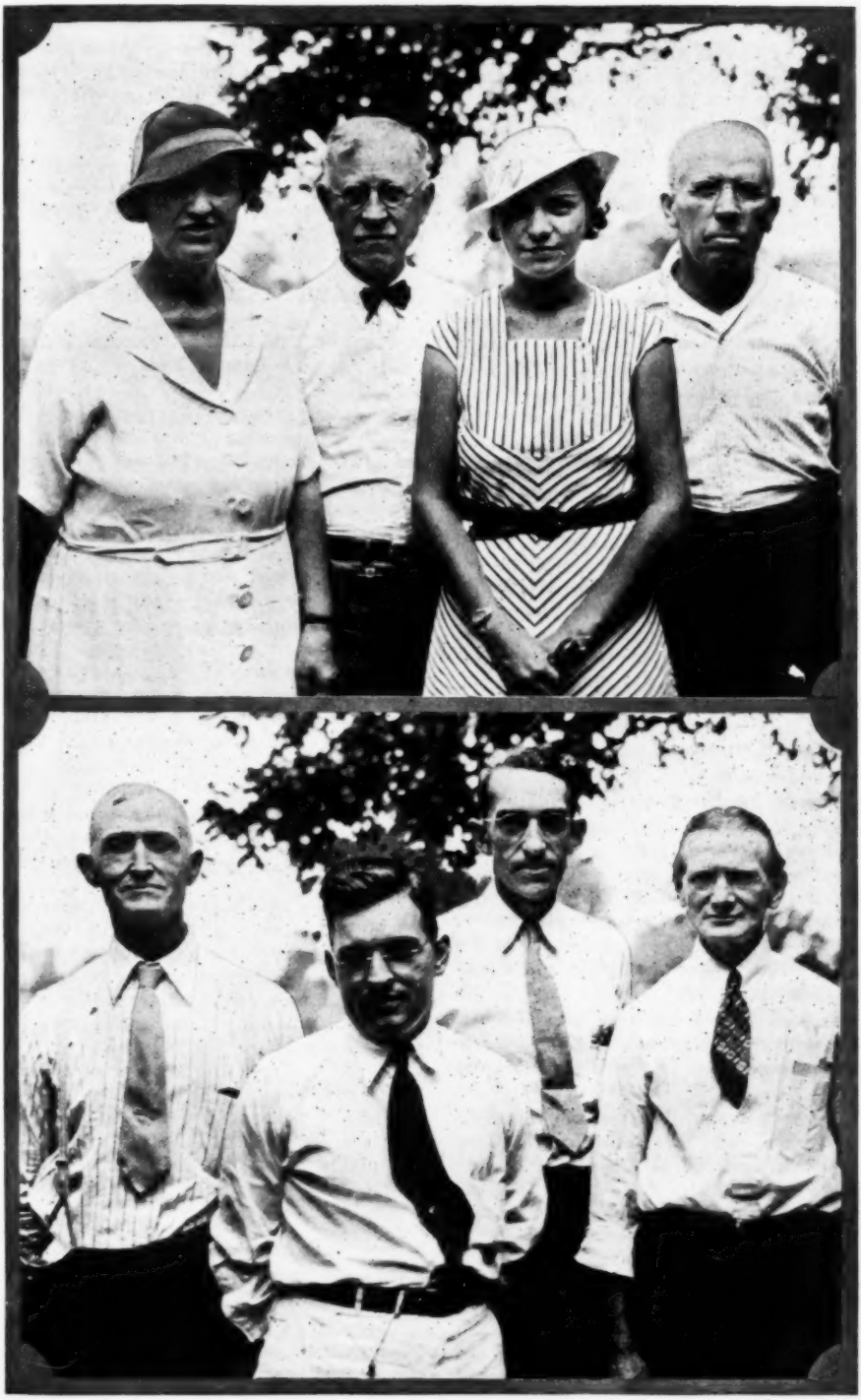
As in the case of many other inventors, the public was skeptical. Beekeepers stuck to their old box hives and finally when a few saw that this invention was real-



—From the American Bee Journal, 1868.

The first extractor built in the United States. Langstroth, the inventor of the hive and frame bearing his name, was the first to build a honey extractor in the United States. With his quick genius for the practical, he early saw the necessity for gearing to increase the speed of the reel.

ly epoch-making, tried to rob him of the glory that was rightfully his. (See American Bee Journal for Febraury, 1872.) It is a sad comment on the times. Some writers (I'll not name them because they are forgotten as they should be) tried to claim that Langstroth was not original, that his patent was antedated. This so distressed Mr. Langstroth that it brought on his old head trouble. There would be long periods when he would see no one and then there would be periods when he was quite himself. It was during these periods of



Upper picture: Mrs. Julia C. Moore and daughter, Virginia; E. R. Root, and Ward Ruse. Lower: John Erbaugh W. E. Dunham, C. A. Reese, and Penn G. Snyder. Photo from the Dayton Journal.

awakening that he would come to Medina to see father.

I would like to take you to the Langstroth house, still in existence, in Oxford, where from 1858 to 1887 he lived.

I wish I could show you the fireplace in that house where he worked. I would like to show you his book of notes, containing the early history of his work. This book fortunately is now in the possession of the Langstroth-Root Memorial Library at Cornell University.

Mr. Langstroth, with his far-seeing vision, was the first to make in this country a geared back honey extractor so that one turn of the crank would make four turns of the reel holding the combs. This was in 1867. Langstroth and Son sold a number of these machines. He was followed by M. Quinby and by A. I. Root.

Some of the prized recollections of my childhood were those long talks that occurred between my father, A. I. Root and Mr. Langstroth mentioned at the outset. During these visits to Medina Mr. Langstroth used to take hold of my hand and talk as only he could of the early days of his persecution; of the introduction of Italian bees by S. B. Parsons, of the imported Italian queen he sold to father for $20.00, and which father carried in his hand to Medina and successfully introduced to a colony.

It was during these early days, according to Doctor E. F. Phillips, that A. I. Root was the evangelist in beekeeping, when he expounded the Langstroth system. He and Chas. Dadant stood firmly by Langstroth until Mr. Langstroth lived to see the day when he was vindicated in the right to his discovery of a bee space that led to his invention.

No mere words can fitly describe Mr. Langstroth's personality and the charm of his musical words that flowed so easily.

Mr. Snyder asked me before the meeting if there were any surviving relatives of Mr. Langstroth at Dayton. I replied that I thought here were none. Imagine our surprise and pleasure when a granddaughter in the person of Mrs. Julia C. Moore, 1820 Auburn Avenue, Dayton, announced herself and then introduced her daughter, Miss Virginia E. Moore. Mrs. Moore was the daughter of Anna M. Cowan, daughter of Mr. Langstroth. In both Mrs. Moore and her daughter I could see some of the fine personality of this great ancestor whom we had come to honor.

It is to be hoped that a national meeting of beekeepers can some day be held at Dayton. There is no man who could pay a more fitting tribute at the grave of Langstroth than Dr. E. F. Phillips, who has under his charge that treasure of Langstroth's personal notes. May the day come, and it will.—E. R. Root, Medina, Ohio.

A WORTH WHILE HONEY PLANT

A Plant of This Kind Is Welcome During a Drouth Year

Something about my experience with Cleoma (C. spinosa), also called spider plant, and Rocky Mountain bee plant may be of interest. Some years ago, without any thought of its nectar content, I sent to an eastern house for some seed, just because I wanted something new. The seed came up well and since then has self-seeded. There are still plants coming up all over my garden for the bees to work on.

We, here in eastern Nebraska, are just ending two successive years of unprecedented drouth and high temperature with hot winds, something unknown in this territory heretofore. My garden was a total failure, and I let the cleoma stand where it came up, but I had saved some seed from last year, and planted it in a small vacant tract, and paid no further attention to it.

The honey crop was extremely light all around here, very little surplus stored. But the cleoma plants kept right on growing, and now, September 1, are in full bloom and covered with working bees. One plant standing alone in the grass of the front yard is five feet high with a spread of six feet and a burst of bloom, while the small place is covered with bloom but, of course, being thicker, the plants are not so large. Bees are on all the plants from just after sunrise until nearly sundown.—A. L. Timblin, Omaha, Nebraska.

COMMENTS ON CURRENT ITEMS

The editor's statement on page 521 regarding the short honey crop throughout the United States would apply very well to the Niagara District of Canada. Owing

to the unprecedented drouth of 1933 and also 1934 the seeding of clover failed to germinate. The prospects for a crop looked so poor that we doubted it would be necessary to put on supers. However, we put a couple of supers on each hive, and and about ten days afterward we were astonished to find the supers filled and a lot of burr combs under the honey boards. We extracted the very light colored, fine flavored honey and wondered where it came from. Investigation solved the mystery. The fields that should have been clothed with clover blossoms grew up to Canada thistles and many discouraged farmers just "let them go."

We have often thought that an ideal plan for honey stands would be to have a stand on each side of the road or opposite each other. It would save purchasers the trouble of crossing the road, and it might pay for the added expense.

In dealing with motorists, one can not handle all customers alike. There is an old axiom, "the customer is always right." It is wise not to argue with a customer if he is not satisfied, just courteously make a short, plain statement and let him do the talking.

The article on page 532, "Early Reared Bees May Winter Perfectly if Not Worn Out in the Fall," is a good one. That was the cause of the 50 per cent loss through our district last year. We put on an extra super at the close of the clover flow and when it was time to prepare the bees for winter there was not five pounds of fall honey in any of those supers. Some had none. Few eggs were laid during the fall and although the most of the queens were young the colonies went into winter quarters with worn-out bees. That too much activity and little honey in the fall means weak colonies in spring is certainly true.

Adelaide Combs dashing full buckets of water on the bees may have killed the queen or the bees may have balled her. A good spraying would have had the desired result. A small force pump placed in a bucket of water and having a 3-foot hose that will turn the spray in any direction is a most useful article in an apiary. It will stop a bad case of robbing quicker than anything we have ever used. A few drops of carbolic acid placed on grass covering the entrance of the colony being robbed will help a lot.

A few drops of carbolic on top of the smoker fuel will assist in speeding the exit of bees from the supers.

Poor ventilation referred to on page 559 may cause swarming. We give our bees lots of ventilation at the entrance during the summer and contract the entrance during spring and fall. Then our double-walled hives made of thin lumber-waterproof paper on each side of the packing are so well insulated, not only against the cold of winter but also the heat of summer that such a condition as "hanging out" is a very rare occurrence. A contented condition of the colony during the swarming coupled with plenty of storage room means little swarming.—J. F. Dunn, Ridgway, Ontario.

SPINSTER JANE SAYS—

I have been once again over the road traversed last October, visiting the Ottawa Valley and the old St. Lawrence, where that famous old windmill and old fort still stand. Sturdy U. E. Loyalists settled that part of the country. Comparing the two nations lying peaceably side by side, with not a fort nor a wall between, with Japan and China, or with Japan and Russia, how thankful we should be! We, though, are blood brothers, and can trust each other for a square deal without trickery.

Last fall everything was covered with snow, a most unwelcome and premature snow. This time everything showed the ravages of a long continued drouth.

I was disappointed in not seeing more bee-yards, though my trip by train in going was during the night, as far as Ottawa. This changed when I reached my old home county, Leeds. Not many miles east of Brockville I saw a wonderful apiary. It sat on a hill, well shaded, and was in full view from the highway. The house and yards looked as if there was only prosperity there, and I wondered just how much credit was due those colonies of bees.

Near my old home nearly all the nearest neighbors keep bees enough to supply their own tables with honey, ranging from one to six colonies. One sensible lady, a spinster, of course, showed her good sense by going into the business properly, because she was in love with the work, and because she knew bees, if rightly managed, were money-makers for their owner.

She had, I should judge, over thirty colonies, and they were placed in an al-

most ideal spot. A bluff rock kept off all cold winds, and several trees and bushes at its foot gave the necessary shade. The bees were busy among her flowers, the latter being her hobby, blooming all about in great profusion. The bees were quiet and content and did not mind being looked at in the least. I saw pail after pail of honey, ready to be delivered to her many satisfied customers, and realized she could perhaps give many old beekeepers helpful ideas as to management. I had only one fault to find; she sold her honey at ten cents per pound, because her customers always stood by her though others all about had honey for sale. Why not have given those old valued customers a jar, gratis, then sold at a good price, that other beekeepers might benefit? If our honey is good, why not ask a good price for it? Is it fair to come under other prices?

One and all speak of the unusual thickness of the honey this year, and think it due to lack of moisture.

I had the chance to sample several kinds of honey, and took great pleasure in doing so. Near Finch I tasted white clover honey, for the first time. It was the clearest, whitest honey I had ever seen, but it had no decided flavor. Basswood honey, though not quite so clear, was much more delicious in flavor, and, last of all, I tasted a honey and remarked on its odd tang. On questioning the man who had it on sale, I found it was alfalfa honey. But, folks, our own brand, of alsike and sweet clover combined, compares most favorably with even that delicious basswood variety. I'm wondering about that orange variety.

I slept in a home near Ottawa several nights, and the first night I wondered if I was "hearing things" or just simply dreaming. All night long the low hum of bees lulled me. Could it be that bees had gone to this sober old head of mine? Next morning I went to the window to see if an apiary were near, and there on the sill I saw a number of honeybees, preening their wings, and sunning themselves. On questioning my hostess, I learned that the walls of the house were filled with honeybees, and stores of honey. At one time it seeped through the wall. Bricks were removed in an effort to get rid of the bees, and it was thought to have been successfully accomplished, but all to no purpose. Another swarm took possession soon after. In fact, that house has become the Mecca of all swarming bees throughout the neighborhood. It is no easy task to tear down brick walls, so during depression those bees are safe. If the walls could only be partitioned, and entrances provided, what an apiary! The wintering problem would be solved.

I have just been reading the September issue of Gleanings, and it set me worrying over my bees. I am afraid they will wear themselves out before real cold weather sets in. Like many women I have known, they will work until ready to drop, yet keep on as long as anything remains undone. That sweet clover field is in bloom again, and how those bees are working! From early morning until late evening we hear them zooming back and forth, and the field itself sounds like a great hive.

Since coming home the weather has changed. We have had showers followed by cloudy, damp days, but just as soon as a fine, bright day comes along, we are going to see what is doing inside those hives, especially in the brood chamber.

One thing is certain! My bees will not be on relief this winter. Females, if given the chance, will always see to that if food is to be had. They are naturally independent, and bees are especially so. They are storing enough to ensure full tummies for all, even the miserable few drones left to survive. Judging from the size of the clusters in my last swarms, I do really believe they have got hold of the food those Dionne parents ate. Vitamin E must abound in sweet clover nectar.

I am more than pleased with my package bees. On my return I found the boy had extracted a five-gallon crock of honey, leaving lots of honey for the bees. In fact, we never disturb the hive body, taking only from the supers. Both buckwheat and sweet clover blooms were spread out for my bees, but they proved discriminating. Their tastes were refined, as this late honey proves. It is almost as clear as the clover honey, and has only a faint tang of buckwheat. Only an epicure would detect its presence.

Now, if only we knew that sort of winter lies ahead of us! Of course it is silly to worry, but if ever bees were warmly packed, mine will be, and early in the season, too.—Spinster Jane.

From North, East, West and South

SOUTHERN CALIFORNIA. — Many beekeepers who moved from orange to alfalfa, sage or wild buckwheat soon discovered the hopelessness of securing a crop of honey, so packed up and moved to the cotton fields of Kern and Tulare counties. So great was the migration that five or six trucks carrying from 75 to 175 colonies would stop at the same station where the drivers stopped for lunch and gas. Many of these outfits were owned by beekeepers who operated from 900 to 1500 colonies. Many sections were overstocked. Weather conditions were not favorable for cotton. With the overcrowding of the territory only an occasional apiary stored enough surplus to justify the expense of moving. Beekeepers that moved to the bean fields received some surplus, but the great majority were fortunate if they got a good fill-up for winter.

A honey buyer who just returned from a trip over much of California and Nevada reports a very spotted honey crop. All agree that the crop as a whole is the shortest in years, if not on record. Honey buyers call regularly ready to buy at slightly higher prices. Beeswax remains firm.

Just why the government should consider lowering the tariff on Cuban honey when we have such a short crop is beyond the comprehension of the writer. America for Americans, first, last and all the time, is our motto. With all government reports indicating a rising price in all farm products we see no reason why honey should not take an upward turn along with beans, corn, wheat, and other farm products.

Meanwhile the sun shines brightly, the fishing season is on, hunters are bringing in deer from the nearby mountains, and some people are enjoying themselves to the utmost.—L. L. Andrews, Corona, California.

NORTHERN CALIFORNIA.—This is being written in a bee camp in the heart of the star thistle district. The temperature is 100° in the shade and 95 per cent of the bee hives have no shade; neither do the hundreds of beekeepers who are bending their backs over the hives taking the light surplus, work in the shade.

The honey flow, in the words of our old Sunday School superintendent referring to ending his address, "is winding to a close." There are many disappointed beekeepers. The star thistle was their last chance. After several failures of honey flows the bees were not in condition to do their best work when the flow from star thistle started. Some had made as many as three moves, none of which produced more than an existence for the bees and some of them not even that. The result was a poor surplus from the star thistle—in some cases as low as 15 pounds. In favored spots a surplus of 80 pounds to the colony was obtained. The general result will show an average of about 40 pounds to the colony.

Beekeepers Are Not Discouraged; None Talking of Quitting.

The beekeepers are not discouraged; none are talking of quitting the business, but, on the other hand, are going still deeper into it with a stronger determination to succeed in the business they prefer above all others, planning more carefully for the future.

The first of September was recognized as the beekeepers' New Year and requeening was commenced and increase is being made. This district is one of the best for queen and package bees and plans are well in hand for the business of the coming year.

H. M. Krebs, Supervising Entomologist, has issued his report of inspection for the second quarter of 1934. Good work is being done in most of the counties but we still have a few counties in which little is done to drive out American foulbrood, the result being that our percentage of disease is still too large. Beekeepers are seeing the need of a united effort to get rid of disease and the result must be encouraging. Our inspectors need encouragement; they have fought a good fight. Beekeepers are pleased but they should do more to assist in freeing the state of disease. We have trained men in our laboratories; they can help us. We admit the proper expenditure should be made. Our experiment stations have shown fine results in all the lines they have been working. Their plans are being completed for the coming year's work. It may not be too late for us to remind them of this im-

portant subject. European foulbrood is no longer a menace; it was up to 1910. Up to that time little had been done to solve its problem. The study was commenced in earnest and the result is that we no longer fear the ravages of European. Why not get busy and find a way so that we may look forward with hopeful confidence that old man A. F. B. must go?—Cary W. Hartman, Oakland, Calif.

NORTH DAKOTA.—Here at Fargo the honey flow was practically at an end by August 20, with apiaries in this vicinity yielding an average of about 90 pounds of honey per colony. Of late the weather has been cloudy and cool with the result that hives have been barely holding their own in weight. Gathering by the bees has been limited to occasional brief periods, at which times the gains fairly compensated for the losses in hive weight during the past ten days. With the return of fair weather it is possible that gathering will be resumed as there is still a fair amount of sweet clover in bloom locally.

Colonies are populous with bees and brood-rearing has tapered off only slightly of late. From present indications, colonies, in this area, are entering winter in fairly good condition. However, this is not the situation for the state as a whole. It is believed that conditions here at Fargo are fairly typical of the Red River Valley of the eastern part of the state. Farther west the honey yields as already reported to this office by beekeepers range from poor to failures. Where such conditions obtain the beekeepers must resort to special feeding for winter or meet the wintering problem in some other way. The poorer yields and failures are due to the greater severity of the drouth and its effect on beekeeping conditions, in the areas reporting. In years of normal rainfall honey production is uniformly high in the places now affected by the continued dry weather.

Correspondence with beekeepers who report crop failures indicate that many of them are taking care of their customers by purchasing honey from more favored areas, retailing it to their trade. This is a commendable practice as it will serve to retain their customers for future years when honey production in these areas will return to normal.

How the wintering problem will be met in areas where poor crops are prevalent this year is now more or less a matter of conjecture. With a lack of honey for stores, and colonies in none too satisfactory condition in the areas hardest hit by drouth, beekeepers will be obliged to adopt the method which seems most practicable under the circumstances. Recently a beekeeper told me that he did not intend to winter over but would kill his colonies off with Cyanogas and re-stock with packages next spring. Another, who is alarmed on account of lack of stores, proposes to haul his colonies in packages to a southern state for over winter and next spring place them in packages and return them to their northern location. Whether or not the venture will be profitable remains to be seen. The beekeeper who proposes doing it has had valuable experience in hauling packages of bees by auto truck from the South during the spring.

Wherever conditions are fairly satisfactory for wintering-over it is believed that most beekeepers are following the policy of wintering colonies in good cellars or in packing cases out of doors. Either method appears to be less hazardous for strong colonies well provisioned with stores.—J. A. Munro, Fargo, North Dakota.

FLORIDA.—In northwest Florida Mexican clover (white pursley) is yielding fine. It is not a surplus producing plant but it furnishes stores for winter and keeps the queens laying late. Plenty of stores and strong colonies late in the season go a long way towards securing a spring crop. In central Florida, our home location, bees are storing some nectar from partridge pea. However, we expect no surplus from this source.

Most of the bees are still in the mangrove section. This plant yielded a nice surplus.

Beekeepers Are Taking Better Care of Their Bees and Securing Larger Yields.

The yield per colony has not been so large as last year but the grade is better. The price advance will help beekeepers. Quite a number are increasing their bees. Beekeeping is gradually coming in to its own in Florida, and beekeepers are taking better care of their bees and producing larger crops and better grades of honey. There is still room for improvement. I

visited a yard a few days ago that would have produced a nice profit had the owner supplied storing room for the bees. Many colonies built combs below the brood-chamber as most of the colonies were in hives without bottoms of any kind.

Wild sunflower is our next source of surplus but in most instances bees must be moved to this plant as it grows only on lowlands. In the Glade section it will begin blooming in about six weeks. It is much later this season than usual, owing to the lateness of the rainy season.

Honey prices have advanced some, both wholesale and retail. Buyers are active and are offering a price much in advance of last year at this date.—N. Forehand, DeLand, Florida.

WESTERN OHIO.—This has been a peculiar season. There was a severe early drouth which spoiled prospects for a good honey flow. A good rain revived vegetation and bees started to work in earnest. This continued until August 15. At no time was there any indication of swarming. Beekeepers reported that their bees were too busy to swarm. A very good crop of fine quality honey has been secured in this area. Some beekeepers are through extracting, and are getting their bees ready for winter.

Beekeepers are holding firm for an advance in price of honey. Some small lots of honey have been sold at a very good price. All honey is packed in 60-pound cans, and in paper cartons which makes a very neat, easy to handle, and practical package to ship.

The weather at present is ideal for bee work as the bees are now storing some honey from white sweet clover, buckwheat, and heartsease. This is almost perfect weather for fall brood rearing. Temperatures during this period have continued abnormally high, with sufficient moisture to keep plant life in good condition.

Sweet Clover the Farmers' Hope for the Future.

There will be no alsike next season as the young plants were all dried up from the severe drouth in the spring and early summer. New seedings of sweet clover look fairly good, and I believe if the farmers would grow sweet clover their pasture problem during dry seasons would be solved. It is surprising what sweet clover will stand during a dry season. Our crop this summer would have been next to a failure if it had not been for sweet clover.

Considerable requeening has been done this summer. Beekeepers are feeling happy over the season's results. They are doing as well as, or better than, people in other lines of business. We believe that the future of beekeeping has never looked better. Delphos and its surrounding territories are proud of their beekeepers.—Fred Leininger, Delphos, Ohio.

OKLAHOMA.—I can write this article thankfully without any mention of drouth except as a thing of the past. I do not believe that there now exists any spot in Oklahoma where rain has not fallen during the last few days.

It started raining around August 21, and continued at intervals until September 1. The vegetation, not completely wiped out by the drouth, has been greatly benefited. There is fall pasture for stock that otherwise would have had to be slaughtered, sold, or left to die. Many fall gardens have been planted.

Cotton was benefited, and from this source bees are gathering nectar and pollen; also peas are yielding some nectar.

But the plant that is most welcome is the smartweed. Honey from smartweed is not considered very palatable by most beekeepers, but I have sold much of it to satisfied customers, first permitting them to sample it. Its main use, however, is for winter stores. Whenever there is a good crop of smartweed honey I give my bees as much of it as they can use and retain the better grade to sell.

There have been some losses of colonies over the country that can be traced directly or indirectly to the hot, dry weather. Colonies are rearing brood, and storing food for winter.—Clarence J. Tontz, Crescent, Oklahoma.

TEXAS.—The weather during the month of August was a mixture of a whole season consolidated into one month. The heavy rain which came the last days of July brought all of the native plants into bloom. Mesquite, catsclaw, white brush and a number of others blooming at the same time made the country look like early spring. In addition to this, cotton, which is seldom nectar-bearing in this vicinity, gave a reasonable flow. All these

gave a surplus which brings the crop in the south-central part of Texas up to normal. It is the first time we have a record of a heavy mesquite flow this time of year. Quite a number of beekeepers extracted as soon as the flow ended and report the honey to be of high quality but of extremely poor color. This is due largely to the small amount of water contained in the honey and the fact that the greatest source of the nectar was mesquite. It has long been known that mesquite honey is brown. The wax secured at this extraction also has the greenish color by which mesquite wax has long been identified. This honey flow emphasizes the statement so often made that Texas is so large and its honey flora so varied that it will produce an almost normal yield every year, as the times of major honey flows may extend from the first of April until the first of December.

In the announcement of the election of officers of Texas Beekeepers' Association it was stated that Geo. M. Jeffus succeeds himself. The statement should be that S. E. McGregor was elected as president, as Jeffus declined re-election. August 18, S. E. McGregor was notified that he had been elected to a teaching fellowship at the Louisiana State University and will begin his duties upon the opening of that institution.

At the present time all of Texas is in the midst of another drouth. The year's record for rainfall shows only a normal period of dry weather but the accumulated records show that the amount of water in the ground is now much less than at the end of the heavy rain which fell the latter part of July. This is borne out by lowering of the water table in dug wells, which is now eighteen inches lower than it was the first of August. This period of prolonged drouth will have a very marked influence on the honey flow next spring, providing we do not have a great deal of water during the winter season. About the only hope now for a honey flow is from annuals and those plants which have shallow root system, such as white brush, guayacan, and huajillo.

A few days ago the Associated Press reported that someone had discovered a book on beekeeping edited by one Moses Quinby and commented on the information contained in the book and its value to the library to which it was given. This, or mere chance, impelled Claude Tingle, a successful beekeeper of Belton, Texas, to donate a copy of "The Mysteries of Beekeeping," by Moses Quinby of the 1865 edition to the Library of the State Apicultural Research Laboratory. This book is the classic of beekeeping literature and while it went through many editions it is next to impossible to assemble a complete set of the editions as the beekeeper used this manual so continuously that the most of them have been worn out. This leads to the statement that if more beekeepers would read more books by beekeeping authorities they would not have as many troubles as they seem to have.—H. B. Parks, San Antonio, Texas.

IOWA.—The extreme drouth which was experienced last summer was indeed very trying to a large number of Iowa producers. In some sections of the state it was necessary for beekeepers to feed and haul water to their bees. The drouth not only cut off the nectar supply, but the water supply as well, so that the hauling of water was almost as essential as the hauling of feed. The progressive producer took care of his bees as long as possible. It is to be regretted that a large number of bees were allowed to starve or die from lack of water.

In the sweet clover belt the honey crop is fair, but not as good as was expected earlier in the season. Extracting has progressed very satisfactorily and there is yet some extracting to be done.

The early September rains will undoubtedly bring on some fall flowers and provide feed for the bees to winter on. In other areas the fall flowers may be absent and it will be necessary for the bees to feed extensively if the bees are to survive the winter.

Due to these unfavorable conditions, there has been less requeening than would have ordinarily taken place so that it will be expected that there will be a demand for queens next year, for in many instances queens should have been replaced in the spring of 1934, and it was hoped that conditions would be favorable in the fall of 1934 so that there will be an urgent need for requeening in 1935.

The annual meeting of the Iowa Beekeepers' Association will be held at Ames, November 15, 16, and 17, in conjunction with the Midwest Horticultural Show and the meetings of the Iowa Horticultural Society and affiliated organizations. The preliminary developments for the program

indicate that there will be much of interest to the producers of this state.

The fall series of radio discussions on honey production over WOI begin September 17, and will continue for 15 weeks, Monday noon at 12 o'clock.

Several producers of Iowa are contemplating co-operating with the American Honey Institute during Honey Week in bringing honey to the attention of a large number of consumers. The program is developing already for the co-operation of the several agencies at Iowa State College with the Institute.—F. B. Paddock, Ames, Iowa.

SASKATCHEWAN.—Until three weeks ago we had a bumper honey crop in view, but the weather continued dry with the result that a less than average crop has been secured.

The southern third of Saskatchewan has been dry for five years, and we have begun to expect drouth there. This year was no exception and the weather was never favorable for bees at any time during the spring or summer in that district.

The central section of the province, where most of the bees are kept, has been consistently good in the past. Although the spring and early summer were favorable in this district, and bees built up in splendid shape for the main flow, dry weather from June on removed any possibility of a good crop. The second growth clover, our best source of nectar, yielded very little, and as we can expect frost at any time now, there is little chance of much surplus nectar being secured from now on.

The northern district is the one bright spot. It has been favored with rain throughout the summer and bees have secured a good crop.

The Crop for the Province is Very Disappointing.

Taken as a whole, the honey crop of the province is very disappointing, particularly in view of the fact that bees were in splendid shape and there was ample clover.

Most colonies will go into winter quarters with lots of stores, as the supers have been neglected and the brood nests are well stocked.

As there is a light honey crop throughout Canada the honey market is strong and prices have advanced from 25 to 30 per cent over last year. Beekeepers have been asking 10 cents per pound in 10-pound tins wholesale, but many are now holding for higher prices.

Owing to the fact that it was impossible to secure all the package bees desired last spring, most beekeepers will be wintering their bees.

There is a saying to the effect that where progress ceases retrogression commences. As soon as we secured a lower express rate on package bees and sat back satisfied the express companies commenced to attack us. This year, I understand, they have refused to pay damage claims on package bee shipments. The volume of package bees shipped has increased tremendously during the past two years and so have the losses. It would appear that overcrowding and unseasonably hot weather have been responsible for much of this loss. This is a problem for the express companies to solve, as the ventilation now afforded large shipments of packages appears to be inadequate. If the express companies continue their attempts to evade their responsibility they will be handing the business over to the trucks.

The annual meeting of the Saskatchewan Beekeepers' Association held August 2, in Regina, was a real success and had quite a southern flavor as Mr. W. E. Harrell and Mr. Thomas Atchison of Alabama were the main speakers. We were also pleased to have another Southerner in the person of Mr. David Dunavan, Entomologist and Apiary Instructor at Clemson College, South Carolina.—R. M. Pugh, Regina, Saskatchewan.

WESTERN NEW YORK.—The cold weather during August has greatly curtailed the production of buckwheat honey and reports indicate that this honey is outselling white clover and basswood honeys in New York City by nearly a cent a pound. As is generally known, buckwheat honey goes in a limited way to a special Hebrew trade and when the supply is only about enough to supply this demand prices are always firm.

Many sections of New York had a good crop of excellent white honey while other sections experienced practically a failure. Basswood furnished some surplus throughout the state.

Most of the bees this year were in the hands of commercial beekeepers on account of the heavy winter losses, so that

prices will probably be more stable than if the holdings were otherwise. When talking with Prof. Geo. Rea, of Cornell University at the State Fair recently, he stated that he would estimate nearly 25 per cent of the national honey crop for 1934 was produced in New York State. Prices are somewhat above last year and should remain firm but we must use caution and not raise prices above the level of competing foods which would only result in a falling off of consumer demand and leave honey on the grocery shelves. It is really regrettable that a short national crop confronts us at this time. The high consumption of honey for the past few years could only be maintained with an adequate supply. While the short crop may re-act temporarily to the benefit of those of us who have fair crops, many people may have to turn to the use of substitutes again and the battle to win them back to honey will have to be fought all over, when honey is again plentiful.

With the exception of cherries there has been active interest in the fruit crop in this section. Prices are about 50 per cent higher than last year on prunes and apples, and over 100 per cent higher on peaches.—H. M. Myers, Ransomville, New York.

NEW JERSEY.—"There is nothing so sure as change"—this certainly applies to New Jersey beekeeping, especially to the northeastern part of the state. During the last twenty years, what is now metropolitan area has changed much from a farming section into a number of small communities, interspersed with waste land now occupied by nothing but brush and weeds, where once were fertile fields. Acres of plowed fields mean very little to beekeepers but the acres of weeds are proving of great benefit in this section. The plants that are in the greatest number are the goldenrods, heartsease, and asters. These, with some other minor fall flowers, are usually quite dependable as a nectar source, unless the weather is decidedly unfavorable. In addition to the fall flow there is another during midseason. This has been of increasing importance in the past few years. The source is unknown but is believed to be sumac, as this seems to obtain greater growth now than ever before in this section. The midseason flow this year has been reported as very good, some claiming to have secured two supers. As this is written (September 5) our main crop of the year is just starting. This should mean two or more supers to come.

All this does not mean that the area is suitable for large honey production, but does mean that the number of beekeepers in this territory is on the increase and for the most part the results are very satisfactory. Beekeepers, even in the cities such as Newark, report very good results. The Essex County Beekeepers' Society has maintained an observation hive in the Newark Museum for a number of years. The museum is located close to one of the most densely populated places in the world and yet has always shown results comparable to many country locations that are considered good.

The Crop Will be Above the Average This Year.

Reports from other sections of New Jersey all seem to indicate that the crop has or will be above average, as weather conditions on the whole have been very good with just enough rain during the summer months to keep things growing better than is usually expected during this period.—John Conner, North Caldwell, New Jersey.

WISCONSIN.—Wisconsin seems to be emerging from one of the worst drouth periods on record. There has been a change in weather conditions, and sufficient rain has come to produce a very fine corn crop. The honey crop is very spotted, and to date sufficient reports have not been sent in to give a good idea of what the production will be for this season. Throughout the eastern part of the state, along Lake Michigan, a good crop has been secured, some beekeepers reporting as much as 30,000 to 36,000 pounds. Reports also indicate that a good crop has been secured in the southern part of the state. In the far north in the main drouth area the few reports received indicate that practically no crop was produced. A few beekeepers secured a crop of basswood honey, but these reports are also scattered and no very large crop is expected. The production for the season will undoubtedly be much below normal, and, with a shortage in crop elsewhere, there is already a strong indication that prices for honey are going to be much better.

All reports indicate that the bees are in good condition, and the quality of the

honey much better than last season, which gives the hope that the bees will in general winter better than they did last year.

Considerable interest is being shown in the new tax on bees, although most of our beekeepers are in favor of it, provided the money can be used for inspection work. Undoubtedly the matter will be brought to the attention of the legislature at the next session. As it now stands, the tax money is put direct into the general fund, and a separate appropriation must be made each year for inspection work.

Certain beekeepers are becoming alarmed over the possibility of foulbrood again becoming serious. With a reduced budget, the inspection department has had to curtail some of its plans, and some of the progress made during the past ten years may be lost as a result.

One of the most interesting meetings I have attended for a long time was held at Plymouth, Wisconsin, recently, where a group of a dozen or more women came to attend a honey cooking demonstration. Two sections of the meeting were actually in progress at one time, the beekeepers listening to talks about bees and marketing, and the ladies listening with interest to a talk on cooking with honey.

Previous to the day on which this is written, September 6, we have had four or five days of more or less steady rain, and the fall condition of plants never looked better—so we hope the end of the drouth has arrived.—H. F. Wilson, Madison, Wisconsin.

INDIANA.—After over four months' drouth it actually rained on August 15. About three and a half inches of water fell in 24 hours and we've had plenty of rainfall since that time, so that vegetation apparently is trying to make up what it lost during the summer.

Bees are working heavily on fall flowers, goldenrod and heartsease chiefly, and aster is now just coming into bloom. A large acreage of buckwheat is in blossom but the bees do not seem to be working on it. There are over 100 acres of buckwheat near one of our yards but we fail to see any bees gathering nectar from that source and do not find any buckwheat honey in the hives.

Local honey prices are somewhat higher than last year, 5-pound pails retailing at 75 cents. As to comb honey, there is very little produced in this locality this year. What there is, is selling to grocers at about $3.60 per case for No. 1 not wrapped, and $3.84 for cellophane wrapped, retailing at 20 cents each.

It is now September 18, and whether or not the bees will secure enough honey to carry them through the winter will depend on the weather during the next two weeks. Thus far this fall, we have found that strong colonies with extracting supers seem inclined to fill the brood chamber with brood and to put all the honey in the supers, which is not so pleasant to contemplate where one has to reduce them to a single story for cellar wintering.

Due to neglect, probably on account of the short crop in the last two years, American foulbrood seems to be on the increase in northwest Indiana. It is not the fault of inspection but many beekeepers are just too shiftless to take care of their bees. Consequently, they are piling up trouble for all in the industry.—E. S. Miller, Valparaiso, Indiana.

MICHIGAN.—The northern part of the state fared better than the southern and has a fair crop from sweet clover, raspberry and milkweed. But wherever the drouth was bad the crop is spotted and

Michigan Harvests Less Than Half a Crop.

the yield low. Less than half the usual amount of honey will be harvested in Michigan this year, taking the state as a whole. The worst feature of the drouth is the fact that new seedings have suffered badly and, unless we have lots of rain before winter, the prospect for clover is poor.

Retail prices are up and quite firm. The price committee of Michigan Beekeepers' Association made a recommendation on prices for both wholesale and retail packs which is being followed closely by members. Less distress honey is being offered than usual, because most of the producers who usually dump their honey have very little to sell.

At the Michigan State Fair a fine showing of honey was made in spite of the drouth. W. C. Greenleaf, Muir, won the sweepstakes; Wm. Blake, Port Huron, got second, and E. Koesis, Detroit, third. The other exhibitors were Mrs. E. Sands, Saginaw; E. Commans, Bay City, and E.

E. Coveyou & Sons, Petoskey, who brought their two tons of fine northern honey nearly 300 miles to help make the show a success. The Wayne County Beekeepers' Association had an educational booth with the secretary, C. W. Bowdlear, Plymouth, in charge, which was busy throughout the fair. The exhibitors maintained association prices on all honey sold. As a result of this effort, Jas. H. Hacker, of Mt. Clemens, a new member of our Association, organized the honey sellers on Detroit Eastern Market and succeeded in having Association prices adopted there. It is difficult to understand why so many beekeepers resist the idea that they are entitled to a fair price for their product.

Southwestern Michigan beekeepers will hold a district meeting, October 10, at 2 p. m., at the home of Arthur Dodd & Sons, about six miles north of Niles, on M40. The equipment consists of a nice honey house and home apiary and all beekeepers are invited. A pleasant surprise in the form of entertainment is being prepared. We had a sample of it last month and can say that it will be worth attending. Everyone who reads this, bring a friend and make this a big meeting.—R. H. Kelty, East Lansing, Michigan.

ONTARIO.—This is September 10. As usual, there have been surprises, some of them pleasant and some otherwise. Locally we expected but little white honey and we got a fair crop. On August 1, our bees were in good condition and we had the largest acreage of buckwheat ever grown here. With plenty of moisture honey started to come in rapidly about the 10th of the month. I told a few beekeepers that we looked for the largest crop of buckwheat honey ever harvested. But my prediction was wrong. On August 19 a heavy hail storm destroyed much of the buckwheat. The weather then turned cool and rainy and actually not a pound of surplus was stored after the 19th. Colonies have lost about 10 pounds each during the past three weeks. As there were immense quantities of brood in all stages, bushels of bees had to be fed since nothing was coming in from the fields. So instead of the largest crop of buckwheat, we have the smallest in several years.

Unfavorable Weather Cut Buckwheat Flow Short.

However, every cloud has a silver lining. While the continued cool weather was fatal to the buckwheat honey crop, it was good for newly seeded clover. Prospects are fair for clover next season.

During the past ten days I have met beekeepers from different parts of the province, and they report very dry conditions and practically no alsike or white Dutch clover for next season. Conditions were much the same last fall, but in spite of the adverse outlook at that time, a fair crop was harvested this year. Much of the honey came from alfalfa and that source will be available next year again no doubt, so beekeepers in dry districts need not give up all hope.

The demand for honey has been almost abnormal with us this year, possibly due to shortage of fruit. Apples in particular are very scarce and winter varieties will be at a premium. The extremely severe winter killed outright possibly 30 per cent of the trees and many more are damaged. Last year we sold about 7000 pounds of honey at the roadside and to farmers around us. This year already about 11,000 pounds have gone and it is still moving rapidly with many purchasing 100 pounds or more. This heavy local demand will naturally cut down the amount available for export. We will have a minimum car to ship as compared with a large car a year ago.

Latest reports would indicate that prices in Great Britain will probably be a bit lower than last year as the home crop is better than usual. Other countries have placed duties on honey that really amount to an embargo and that will mean concentration on markets of Great Britain where duties are lower. Another factor that will tend towards lower prices is the lower price of sterling. Last year at this time or later, the pound was worth about $5.25, rising at one time to $5.33. Now the pound is about par—around $4.86 and it may go lower. This will make a difference of at least ½ cent per pound—quite an item on a car of honey. Of course, no one knows what may happen in exchange, but with persistent reports of further inflation of the American dollar, it certainly does not look like higher sterling at present.

In closing, it seems but fair to say that beekeepers have fared very well this year. So let us be thankful.—J. L. Byer, Markham, Ontario.

Heads of Grain from Different Fields

Bees Select a Concrete Home

Just as bees have no respect for persons, neither do they have any respect for places, as this picture proves. Perhaps they tired of their abode of wood and desired a different type of architecture. Anyway, they chose this one of concrete, the base of a signal tower, on the C. B. & Q. railroad, near Murphy, Nebraska. Their

A novel abode for the bees. This home has two entrances—one on the south as shown, and the other at the back.

dwelling has two entrances—a front and a back door, so to speak, one on the south shown in the picture, and another to the north. The north entrance had been given preference by the industrious little bees. No amount of coaxing induced the inhabitants to venture forth. The morning was a bright sunshiny one, but quite snappy. One brave enough to put an ear to the front door was rewarded by an interesting buzzing.—Mrs. Benj. Neilsen, Aurora, Nebraska.

Bees Cross Last Year But Not This Year

Last year we found our bees very cross, in fact, we had to put on veils before we entered a yard. We laid it to the drouth, although we produced an average of about 59 lbs. It did not make any difference where they were located or how carefully they were handled—they were all possessed alike. This year it was so dry the pastures never even started, and where bees were not fed in June and early July they nearly all starved out. There will be only a few colonies that will have enough honey for winter stores. With this condition existing we have not had to use a veil once during the season. We are handling 130 colonies. I have also inspected more than 1000 colonies in three counties and have had to put on a veil but once. Can you explain the difference? This is the first total failure we have had in 13 years. In fact, the 59 pounds last year was our shortest crop till this year. Only two yards located on river bottom land have touched the supers. Several yards have never even started a queen cell. We fed an average of 30 pounds in late June and July.—Harold I. Perrin, Sargent, Nebraska.

The Medicinal Value of Honey

Having read carefully the article on selling honey, page 402, July Gleanings, I am led to question the following comment: "In any event, the best policy for the producer to follow would be not to stress the value of honey as a medicine." It is true that the medicinal qualities of honey should not be overdone by those who know very little or nothing about its qualities, or the benefits which may be reasonably expected from its use. As a remedy for colds, honey has been used since time immemorial. Why? Because it is a laxative food. Constipation and colds ordinarily travel closely together. Honey is a very poor pal for constipation and consequently colds usually prefer other than laxative foods. Honey may or may not prove efficient for coughs or sore throat. However, its use does allay the tickling sensation in the throat about as well as anything ordinarily found in the drug store for that purpose. Honey is safe, harmless. As to honey being a relief for sore throat, much depends on conditions. Honey is a valuable emollient for sores, so why not sore throat as well. —J. H. Sturdevant, St. Paul, Nebraska.

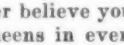
Jamaica Beekeeper Agrees with Latham

After reading the article in the June Gleanings, page 334, viz., "Factors Affecting Queen Quality," by Allen Latham, I would not be just toward this gentleman had I remained silent as usual regarding

his other articles. In this article, Mr. Latham asks two questions, "Am I right? Am I wrong?" For the past twenty or more years I never believed in bees rearing their own queens. I certainly believe in grafted queen cells. Then you can control your larvae, your cells, and your queens. I further believe you not only get more prolific queens in every respect but you get bigger and better queens. In years gone by I really used to think that supersedure queens were the best, but finding they fail early I could not imagine why, until a few years ago. I just think those eggs were laid by an old failing queen. I will stop here. If I go further I will be writing Mr. Latham's article over, but I will conclude in saying that if Mr. Latham would offer me his hand and I could reach it from Jamaica I would give it a hearty shake, and say, "Good old boy!"—F. H. Touzalin, Little London, Jamaica.

Swarm Withstands Violent Hurricane

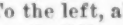
On May 1, 1933, I hived a swarm which had been exposed to the "line storm" that visited the Bermuda Islands April 26, when the wind reached a velocity officially of 132 miles per hour, maintaining this velocity for about twenty minutes. The wind blew all night with increasing force from the southeast and at 7:40 a. m., after a slight lull, veered to the northwest with the above-mentioned velocity. It was accompanied by a torrential rain. This is the usual course of hurricanes in these islands. The swarm, a small one, was on the limb of a Bermuda cedar, about six feet from the ground. Back of the cedar is a hedge of red trumpet flowers. About a hundred yards or more in front, i. e., northwest, and also to the right is a row of large cedars, trees at least a hundred years old. To the left, about 30 yards away are some outbuildings. How much these windbreaks tempered the force it is hard to say, but at best the bees must have been exposed to a terrific wind. Sometime during the storm the swarm divided but united again afterwards. The records show that honey and wax were exported in 1679, which must have been produced by the European black bee which was introduced earlier in that century. At present, as far as I know, all of us keep Italians so the strain is probably rather pure by this time. I fed the swarm for several days and they seem to be doing well though I have not opened the hive lately to see how they are progressing. The swarm was near the home of two trained nurses, one of whom is our district nurse. Both are accustomed to making accurate observations, and reported the above.—William V. Ewers, Les Revenants, Somerset, Bermuda.



Honey Fills the Bill

Mrs. Arnold says in the July Gleanings that jelly was the one thing that she could not make with honey. Since we have just finished the jelly I made with honey last summer, and I had to hide the jars to keep it that long, perhaps you would like to hear about it. I found some directions in a magazine for making honey jelly, and with the spirit of "trying anything once" I followed them; but I got—well camouflaged honey, not very well camouflaged, either. When I offered it to my friends with the remark that this was jelly without sugar, they promptly rejoined, "That is more honey than jelly," and I agreed. And it was no wonder; for the recipe called for three cups of honey to one cup of fruit juice, and then required an array of detailed boiling and measuring that seemed to me entirely unnecessary and exceedingly annoying.

So I decided to experiment a little: and my next jellies were pronounced deliciously successful. This is how I did it: First I discarded all the directions I had found. Then I put just as many cups of clover honey into my kettle of crabapple juice as there were cups of juice, and boiled this until it would "apron" on the edge of the spoon instead of running off drop by drop like water. Then I poured it into my jelly jars, covered it with paraffin, and it was done.—Lillian E. Eastman, Hill, New Hampshire.



Neat, Clean Package Wins Out

Yesterday, September 10, while in a grocery store I noticed honey produced by two different beekeepers on display. One had a round jar with a one-color label on it and the honey had small flakes of wax in it. The other had his honey in a neat jar with a neat label—nothing expensive. The grocer told me that the honey in the neater jar sold for three cents per jar more than the other and he had sold about three times as many of the more expensive jars in the same week as he had of the other kind.—Wm. A. Pogue, Terre Haute, Indiana.

How Shall the American Honey Institute be Financed?

—It is not the writer's purpose to make this appeal for funds, but to put the matter of the American Honey Institute before the beekeepers to see if there is not some way of bringing forth a plan that will make it unnecessary for the officers of the Institute to be sending out frequent appeals in behalf of the Institute.—

This is an important question before the beekeepers, and some very definite plan should be worked out that will meet the approval of the beekeepers. The question is frequently asked, "Can't the Institute get along without appeals for finances being made every month?" The answer is that it might, if the Institute workers could wait for their salaries.

The Institute has made every effort to give publicity to its activities and to keep the beekeepers informed as to what is being done. A number of different plans have been tried for establishing a definite, regular financial method of maintaining the Institute. Last year, we hoped that by making up a quota for every state, it would not be necessary to continually appeal to beekeepers for help. However, because of the economic conditions and the drouth over a large part of our country during the past two years, many of the beekeepers who ordinarily helped are unable to do so, and those who can must keep the Institute going if it is to continue.

I wonder how many of our people appreciate that at no time is there more than enough money in the treasury to pay the salaries of Mrs. Jensen and Miss Cranston for a month and a half in advance? And the officers of the Institute feel it their duty to make every possible effort to keep the Institute going, even should they receive individual criticism. If we were to drop our appeals for two or three months, I am sure the Institute would be in such financial distress that it could not keep going. Funds from different parts of the United States come at different times, and the drives must be made at such times as are necessary to reach these different sections. I am sure the Institute officers would be glad indeed if they had never had to make an appeal for help, or if the appeal had to be made only once each year. Please, someone, give us a good plan that is workable which will solve our difficulties.

I think I can suggest a plan that would be quite satisfactory if it were possible to find enough beekeepers who would be willing to pledge their definite support, and see to fulfilling the pledge. I am sure there will be at least 10,000 beekeepers who will read this article, but how many will immediately drop the Institute a postal card, saying they believe in the Institute, and will guarantee $1.00 per year for the next five years.

If every member of a state, county or local organization who reads this article would immediately drop us such a card, I am sure we would not have an amount equal to more than the present working budget of the Institute. Perhaps 100 persons have spent considerable time working for the Institute and soliciting funds. Thousands of beekeepers benefit each day from this work, and many more will benefit in the future if the work is continued. Large beekeepers and honey bottlers throughout the United States agree that the Institute is doing a fine piece of work and that they believe in it. But what are most of these people doing to actually support and insure the maintenance of the Institute's publicity campaign?

A few beekeepers are able to visit the Institute. The Institute does not have funds to send its representatives out over the United States to give demonstrations, and show what the Instiute is doing. If you folks could only see what is being done, I am positive you would not hesitate a single minute in signing up on the five-year plan.

I wonder how many of you know that the world's largest newspaper, the "Chicago Tribune," is continuously printing articles on the home page concerning honey and giving recipes? Recently there came to my desk a little mimeographed booklet containing 27 honey recipes. This booklet was prepared by Mary Meade, cooking editor of the Chicago Tribune, and sells at 5 cents the copy. The title of this booklet is, "Say It With Honey." It is carrying the story of honey to hundreds of thousands of readers, and the most important fact concerning this booklet and its story is that it has all developed as a result of the work of the Institute. Publicity with the personal touch of the editor can not be bought. Publicity brought forth through this one paper alone is equal to a hundred thousand dollar publicity campaign put on by any individual firm.

This morning there came to my desk a letter addressed to the American Honey Institute and containing 10 cents in stamps, which reads as follows: "American Honey Institute, Madison, Wis., Gentlemen: I would appreciate it very much if you would send me recipes for using honey. I have been told you have such a pamphlet. Please send to me at the above address. Mrs. ———, California."

I wonder how many of our readers will appreciate just what this means? A hundred such examples occur each year. Here is a new customer for honey. Someone has created an interest and this lady is willing to write a letter and send 10 cents to get some reliable information on the use of honey.

This year the honey crop is short. Prices for honey have advanced, and those who have any crop at all probably will be able to dispose of it at a fairly satisfactory price. But what about the years to come when there will be overproduction? The loss in low prices alone will in one year amount to many times the amount required to maintain the Institute. There is only one way to prevent this condition, and that is to bring about an increased number of honey users and a greater consumption of honey to take care of the over production. Individual effort on the part of producers and bottlers will not make the slightest difference, but the American Honey Institute, working through a hundred sources that carry the story of honey to millions of people, can do this. The success of the effort, and the number of people reached, depends entirely upon the united support of the beekeeping fraternity. If sufficiently great in number, single contributions of $1.00, added to other contributions, can produce a great power for honey publicity.

What, then, is to be done about the matter? Will we simply sit still and allow the Institute to die from inertia on the part of the beekeepers, or shall we make the Institute so important and so widely known that every individual with a crop of honey to sell, will be sought out by consumers, rather than having to go from door to door, begging people to buy honey? And I take the liberty to make the prediction that if the American Honey Institute is allowed to pass out of existence, the beekeeping industry will drop back 25 to 50 years, and marketing conditions will be so hopeless that 3 cents to 5 cents per pound will more often be the wholesale price than will 6 cents to 10 cents, the necessary price to really make beekeeping a profitable venture, even for the man with a large number of colonies.

A man who can manage bees so as to produce 100,000 pounds of honey per year ought to be worth a salary of $5,000 per year. What does it cost to produce 100,000 pounds of honey, and how much interest is necessary to pay for the investment and depreciation? Probably not less than $2,500, so the $5,000 man becomes a $2,500 man for the simple reason that he is engaged in an unorganized industry where he is forced to sell below the cost of production. Now note this particular point—he would have to receive only 2½ cents more per pound to receive the salary to which he is entitled.

Now, let us take the small beekeeper who, we shall say, has only 25 colonies, and he secures 100 pounds per colony. At 5c per pound he would receive a net income of $125. By the time he pays the interest on his investment and depreciation, containers, labels, and other costs, the actual income will have decreased to $50 or $75, so that, as a beekeeper, he is worth about $50 or $75 per year. At 7½c per pound, without any additional cost, he could double the income and net $125 a year as a beekeeper.

It is true that honey, like any other product, is worth only the price that can be gotten for it, but if honey is not worth 7½ cents a pound, which is slightly more than sugar, it isn't worth producing and putting on the market.

There are two courses to follow—either the honey business must of necessity remain in the "piddling" class with every member of the industry shamefully admitting he keeps bees—or it can be made a real industry with everyone engaged in it proud of being called a beekeeper.

The American Honey Institute is the factor of success. It will be interesting to see how many beekeepers are sufficiently interested to drop us a card offering suggestions and who are willing to sign up as members of the American Honey Institute Association, insuring a five-year program. If you are willing to back a sound financial plan and can make any suggestions for the development of such a plan, send us a card or letter to American Honey Institute, Box 2020, University Station, Madison, Wis.—H. F. Wilson, Madison, Wis.

FROM FOREIGN LANDS

W. J. Nolan

The first bee journal in German to appear regularly was called, "Monatsblatter für die gesamte Bienenzucht," according to Jul. Herter, in the Leiziger Bienen-Zeitung, who states that it was founded in 1838 by Anton Vitzthum and was continued until the year before the latter's death in 1844.

A grant of £1000 in Victoria to study pollen substitutes, with a promise of another like grant later, is mentioned in the Australasian Beekeeper for July. At present 14 different pollen substitutes are being tested in connection with this work.

Prospects of the best honey crop in years in large areas in South Germany are reported by Carl Hause, in the Kurmarkische Imker for August, and he recommends, as one measure for its successful marketing, raising the duty on imported honey high enough to insure the sale of the local crop.

Under the auspices of the Austrian Beekeepers' Union some 60 Viennese physicians and journalists were taken recently on a beekeeping tour, according to the Bienen-Vater. As a result, in addition to publicity in the daily press, there was manifested an increased interest in honey on the part of the physicians participating.

Many curious uses have been given for honey, including the feeding of it to cattle. The New Zealand Smallholder, quoting a Japanese paper, states that in Japan, fish fed on a mixture of honey and flour surpassed all others in growth and had a delicious flavor. Such a diet also added to their keeping qualities in storage.

The name of Kramer in Switzerland would be outstanding in beekeeping because of his pioneer work in breeding the honeybee for race improvement, if for no other reason. He relied upon isolated mating stations. Since his day quite a beginning has been made in the study of physical characteristics of the honeybees by statistical methods so that the inheritance of these characteristics can be more readily analyzed than in the past. Methods for the artificial insemination of queen bees have also been developed. In various countries investigators are applying up-to-date breeding methods in an endeavor to improve the honeybee. One of these is Jaroslav Rytir, of Czechoslovakia, who has recently published a manual in Czech covering various phases of bee-breeding, including a discussion of genetics, statistics, and queen-rearing methods, as well as a discussion of various physical characteristics whose inheritance has been studied.

Not many controlled experiments on the benefits of honey in the human diet are on record. Consequently recent work in this field by Dr. Anton Rolleder in Vienna, as published in the Bienen-Vater for August, is of interest. It recalls similar work in Switzerland by Doctors Frauenfelder and Emrich. At a certain orphanage Rolleder chose 29 pairs of boys for experimental feeding, the members of each pair being as alike as possible under the circumstances. Of these boys, 8 pair were about 8 years old; 16 pairs were about 10 years old, and 5 pairs about 12 years old. Size of body, weight, and the haemoglobin content of the blood were determined on beginning the experiment. One boy in each pair was then given one spoonful of honey every forenoon and afternoon for six weeks, while the other boy was not given any. Care was exercised to begin the experiment long enough after school opened in the fall to eliminate any effects which might be ascribed to the change from vacation to school life. At the end of the six weeks the measurements made in the beginning were repeated.

Among his results Rolleder found that the haemoglobin content of the honey-fed children had increased somewhat. On the other hand, in the untreated children the haemoglobin content had lowered, corresponding with the lessened physical activity during the school year. Haemoglobin is the coloring material of red blood corpuscles. In general, all the children gained weight. However, for the untreated children this gain was less than 2.2 pounds in all cases, whereas for the honey-fed children it was even as much as 4 pounds, or more, in some cases. It is of interest that all the honey-fed children whose haemoglobin content only remained constant during the experiment, or fell off, showed a big increase in weight. The appearance of the younger children also improved, but this was not evident in the older children in the brief period covered by the investigation.

Just News

Editors

The thirtieth annual meeting of the Washington State Beekeepers' Association will be held in Tacoma on Tuesday and Wednesday, November 6 and 7. For particulars write M. F. Mommsen, Tacoma, Secretary.

A reprint from Journal of Economic Entomology, June, 1934, of a paper entitled, "Studies on the Bacteria Associated with American foulbrood," by C. E. Burnside, Assistant Apiculturist, Bureau of Entomology, U. S. Department of Agriculture, is now available, by writing to Bee Culture Laboratory, Washington, D. C.

The Scottish Beekeepers' Association, as is well known, possesses one of the largest and finest libraries of bee books in the world. The first book on bees printed in English was a "Treatise Concerning the Right Use and Ordering of Bees," by Edmund Southerne, Gent., the year of publication being 1593. The Librarian of the S. B. A. has had the treatise reproduced in typescript, in a limited edition, with photographic facsimile of the original title page procured through the British Museum.

In view of National Honey Week, November 11 to 17, beekeepers should avail themselves of the opportunity of securing valuable information furnished by the American Honey Institute. On receipt of a 2-cent stamp the Institute will mail complete information on Honey Week, and for 20 cents there will be sent suggestions for giving honey demonstrations, also points on display arrangements and a complete list of honey dishes. The Honey Institute can help beekeepers more than any other organization in existence to sell their honey. Address American Honey Institute, Commercial Bank Building, Madison, Wisconsin. See page 582.

Production credit associations are now functioning in all agricultural counties throughout the United States as a part of the Farm Credit Act of 1933. Loans are now made at 5 per cent annually. The money is available through the sale of debentures secured by the notes and chattels of the borrowers which are rediscounted through the Federal Intermediate Credit Banks. Money may be borrowed for any agricultural purpose. These loans are in no way a relief measure, but do provide a line of credit at the above rate plus a repayment plan based upon the individual's type of farming. It is entirely possible for beekeepers to apply for Production Credit to county representatives of the Production Credit Association. Loans of this nature have been made in many cases.

Valdosta, where the great international congress of beekeepers is to be held, is the center of some of the best bee country in the South. At one time J. J. Wilder had in this part of Georgia over 12,000 colonies of bees. He has far from that number now owing to fires and drouth but he is still at Wayeross with his old fire and enthusiasm and there are other beekeepers in this great gallberry and tupelo section of the county. Valdosta has ample hotels, rooming houses and one of the largest tourists' camps in the country where groups of beekeepers can lodge at night at 50 cents per head with privilege of heat and shower bath. Valdosta has an auditorium with a seating capacity of 900 with committee rooms and parking spaces. We are promised a negro chorus of 100 trained voices. The plantation songs and dances of Old Dixie will charm those who come. Those who desire reservations should write the Chamber of Commerce, Valdosta, stating the price you are willing to pay for lodging because undoubtedly this congress will occupy four days. Those who write early will get the best accommodations at the lowest prices. After the great convention there will be tours of beekeepers in their autos through Florida, Louisiana, Texas, and Alabama. A number have written saying that they wished to see the great tupelo regions of northern Florida and the Everglades of Southern Florida. Some will wish to go into Louisiana and Texas. Others will stop on the way back to inspect the great package bee industry in Alabama and Mississippi. Altogether this will be the opportunity of a lifetime for the northern beekeeper to shake hands with his southern brother in the craft.

Gleaned by Asking

BY THE EDITORS

Scorched Honey for Winter Stores

Question.—When heating cappings to separate the wax from the honey, I carelessly let it boil, but apparently the honey is not burned or scorched. However, the flavor is changed—stronger, I think. Can this honey safely be fed to the bees as fall feed at this time?—Ella C. Miller, Washington.

Answer.—Honey that has been overheated is not suitable for winter stores for bees in localities where they are confined to their hives for several weeks at a time. In your locality where they may have frequent winter flights, it may not be injurious, but it would be safer to save this honey to feed in the spring when they can fly freely every few days.

When Do Bees Ball Their Queen?

Question.—Under what conditions will a colony of bees ball their queen when she is laying?—Arthur Tripp, Massachusetts.

Answer.—As a rule, bees do not ball their queen unless the hive is opened. The balling in any case is caused by some disturbance during a dearth of nectar. It seems that some strains of bees are more nervous than others and when the hive is opened especially during a dearth when little if any nectar is coming from the fields, the bees are apt to pounce on their queen and ball her. It is frequently necessary to rescue the queen from the center of the ball of bees and introduce her in an introducing cage in order to save her. It is advisable to examine the hives as far as possible during a honey flow and preferably during the middle of the day.

Wintering Bees in Brooder House

Question.—As there will be no one here next winter, can I winter my bees in a brooder house 8 x 10 x 7 feet? How much should be hives be opened, and how many openings should there be in a building, and how should I arrange the hives?—Samuel Y. Hepler, Pennsylvania.

Answer.—It would be inadvisable to winter your bees in a brooder-house, because during warm days of winter the bees will fly out of the windows or other openings in the south side of the brooder-house and will be unable to find their way back to their hives through the openings and will consequently be lost. Many beekeepers have tried to winter their bees in small buildings or barns and have lost them. The trouble is the temperature of any building above ground fluctuates too much. If the climate is cold enough and a uniform temperature can be maintained a cellar would be preferable but in your case it would be much safer to winter out of doors and pack each hive properly. It is essential that the bees be wintered in a sheltered place away from the prevailing winter winds. A good windbreak means much in successful wintering. Some beekeepers winter their bees in cellars. A bee cellar should be absolutely dark and the temperature should range between 40 and 50 degrees Fahrenheit. For wintering a few colonies, a dark fruit cellar can be used to advantage. The entrances of the hives should be left open and not screened. The bees should be placed in the bee cellar in late November, following a good flight day and removed in early April when first pollen is obtainable.

Manzanita as a Honey Plant

Question.—Is manzanita a good honey plant? How much surplus could one expect from a strong colony?—E. E. Thornton, Arizona.

Answer.—According to the book, "Honey Plants of North America," by John H. Lovell, the manzanita, an evergreen shrub or low bushy tree, secretes nectar freely when conditions are right. It begins blooming early in January and the honey flow lasts until the middle of March. Colonies in good condition have built the combs and stored two standard ten-frame supers of honey. It is necessary, however, to have colonies up to normal strength at the time the honey flow from manzanita starts. This means pood wintering and strong colonies in the fall.

Food Chamber and Cellar Wintering

Question.—Should colonies of bees have food chambers during the time they are in the bee cellar, and if not, how and where should the food chambers be kept?—J. B. Blosser, Michigan.

Answer.—Some beekeepers winter their bees in bee cellars in double-story or food-chamber hives. If a deep food chamber is used, such hives are rather cumbersome to handle. If shallow food chambers are used colonies are more easily lifted. You may be using the shallow food-chamber hives, and if you are, we suggest that you winter your bees in the cellar in these shallow food-chamber hives, having the food chamber on top. If you use the deep food chambers it may be preferable to take off the food chambers during late September, making sure that there is a sufficient amount of honey in each brood chamber for winter stores. The colonies can then be cellar wintered in single-story hives and the food chambers can be held in reserve to be out on the follow-

ing spring. These food chambers should be stored in a dry place. A room with a little heat is preferable for the storage of supers containing honey in combs.

Moving Bees a Short Distance

Question.—How can I move my bees a distance of about 50 feet successfully?—Philip Glasser, Pennsylvania.

Answer.—If you attempt the moving during the summer, especially when there is a good honey flow, and if you move the bees directly to the new permanent location, many of the old bees will return to the old location and the bees of the different colonies will get badly mixed up. One method is to move the bees to a temporary location at least three or four miles away and leave them on this temporary location for a few weeks, then move them back to the permanent location. Of course, this requires considerable time and labor. Another method is to move the hives a few feet each day until they are on the new location. This is a rather tedious job. If bees are moved a short distance early in the spring or late in the fall during a cool spell there is not likely to be much drifting or returning to the old location.

What to Do With Combs Filled With Pollen

Question.—At the beginning of the June honey flow I had a large swarm of bees that appeared to be working well, but after a close examination, later in the season I found a few frames that were three-quarters filled with bee bread. Should I leave these combs in the hive during the winter or should I remove them and put in new ones?—W. Wrzos, Connecticut.

Answer.—You need not be concerned about the amount of pollen or bee bread in the combs of your hive. You will find that this pollen will be needed for brood rearing in late winter and in the spring. It has been definitely proven that an ample amount of pollen is necessary for the welfare of a normal colony of bees. It is unwise to remove combs containing pollen from the brood chamber during the fall months unless the combs are crooked, and consist of drone or hybrid cells. Bees cover pollen in the bottom of the cells during late summer and fall with honey and this pollen is used by the bees the following spring for brood rearing when pollen from natural sources may not be plentiful.

Use of Queen Excluder During Winter

Question.—I am using queen excluders on all of my hives, and I am wondering what I should do with them during the winter months. Should I leave each queen excluder under the food chamber or take it off?—S. A. Butts, Tennessee.

Answer.—It is advisable to remove queen excluders from double-story hives during the winter months. If a queen excluder is left below the food chamber of a double-story hive during the winter, the queen may be lost because of being unable to remain in the center of the cluster of bees. Sometimes a colony forms the winter cluster on the lower set of frames in early winter. However, the cluster, if strong enough, will work upwards, as the winter advances and as the bees move on to new honey. One winter we tried leaving the queen excluders below food chambers during the winter. Some of the colonies lived. Other colonies died because the queens were unable to pass through the queen excluders in order to remain in the center of the clusters.

Tartaric Acid in Sugar Syrup

Question.—Is it necessary to use tartaric acid in making sugar syrup for winter bee food? Some say it is, and others say it isn't.—James Brady, New Bork.

Answer.—Years ago we fed considerable sugar syrup, approximately 20 or 30 pounds to each colony during early October. We found frequently that the sugar syrup would granulate over the holes in the lids of ten-pound pails which we used for feeding. We found also that a considerable portion of the syrup would granulate after the bees stored it in the combs. We decided to use tartaric acid to prevent granulation. This worked out to good advantage. We used three-quarters of an ounce of tartaric acid to each 25 pounds of sugar. The tartaric acid comes in powder form and is put into the syrup while it is being mixed. We recommend the use of tartaric acid, but it is possible to use vinegar or honey instead. We now use food-chamber hives and it is seldom necessary to feed sugar syrup in the fall.

Getting Bees from Bee Tree

Question.—I know where there is a bee tree that contains a large swarm of bees. Do you think it would be advisable to get the bees out of the tree and put them into a hive this fall?—James McDonald, Michigan.

Answer.—As you are interested in getting the bees to put into a hive it would be inadvisable to attempt the work this fall, because the swarm of bees even though put into a hive would not get well established in their new home so late in the season. Transferring bees from a bee tree to a hive should be done during the warm months and preferably at the beginning of a good honey flow. At that time bees are gathering nectar and they are also secreting wax and, therefore, comb-building would proceed normally. During cool weather when no nectar is obtainable, bees can not build combs unless they are fed sugar syrup and this would be unsatisfactory.

Talks to Beginners

M. J. DEYELL

Every month of the year is important to beekeepers, but the month of October is one of the most important months for beekeepers in northern latitudes. All work connected with bees should by rights be finished some time during October. In the South any attention colonies may need in preparation for winter may be given this month or early next month.

Reasons for Winter Losses

Thousands of colonies perish during the winter because beekeepers fail to give their bees the necessary attention earlier in the season. Of course, some defects in management may be corrected, even in October. However, it is impossible to winter weak or undersized colonies satisfactory and they should be united as per directions given in Talks to Beginners last month. When colonies are united late in the season it is unnecessary to use newspapers between the hives that are being united.

Behavior of Bees at This Time

Beginners will doubtless notice that the bees are somewhat listless and inactive during October. It seems that they know what is ahead of them and are conserving their energy to withstand the long, cold, winter. Any nectar that is gathered from late-blooming flowers such as goldenrod and aster, is deposited in the brood nest in cells from which the last cycle of brood has emerged. A considerable amount of pollen is stored in the bottom of the cells. Honey is put on top of the pollen. This pollen will be needed next spring for brood rearing. It is a mistake to change the arrangement of the combs in the brood chamber, late in the fall unless it is absolutely necessary to do so, when substituting full combs of honey for empty combs, when feeding is necessary.

The queen practically stops laying eggs in early October in northern latitudes and colonies enter their period of quiescence. Most of the young bees that appear on the scene at this time have not helped to gather surplus honey. These vigorous young bees that have just emerged from the cells are destined to carry on the activities of the colony until spring. Their work will consist largely of helping to regulate the temperature of the hive during the winter and this is accomplished by generating heat within the winter cluster by muscular activity. It is quite necessary, therefore, that there be a reasonably large force of young vigorous bees to carry on during the cold winter months. Many of the old bees die before spring. They have already done their part earlier in the season.

Strength of Colony Needed for Wintering

If the beginner will look into a colony on a frosty morning he will find that the bees have formed a cluster which is spherical in shape. By rights, the cluster should occupy at least five or six spaces between the combs. In some instances, very populous colonies occupy seven or eight combs on a cold morning. It is easy to understand why a very populous colony will survive the rigors of a cold winter better than a weaker colony. Smaller colonies have greater difficulty in maintaining the required temperature of the hive during the cold months.

Amount of Honey Needed for Winter

Many beginners make the mistake of leaving an insufficient amount of honey with each colony for winter. Beginners apparently think that they can easily furnish more honey if needed, either during winter or early spring. This is a mistake. The required amount of honey should be furnished in the fall, so that the bees may have it when needed. By rights, each colony should have at least 30 pounds of honey for outdoor wintering. This amount will carry a colony until spring. Forty-five or fifty pounds of honey left with each colony in the fall makes spring feeding unnecessary.

Beginners who are using food-chamber hives do not have to worry about winter stores, especially in regions where the season has been favorable for nectar secretion. The beginner will doubtless understanding that a food chamber is either a shallow or a deep extracting super well filled with honey, this in addition to what honey there may be in the food chamber of the hive. It simply means that each colony is wintered in a two-story hive. Colonies that have been kept in food-chamber hives throughout the season are likely to be stronger in bees than colonies without food chambers. There is this added advantage in wintering in a food chamber hive; the winter cluster forms between the two

sets of frames and the bees can move laterally if necessary, on to fresh honey during the winter.

As a rule, the cluster of bees in early winter is found near the front of the hive. The cluster moves upward, then backward, as the winter advances.

Beginners who are wintering colonies in single-story hives may estimate the amount of honey in each hive by examining each comb. A standard comb completely filled with honey contains between five and six pounds. On this basis it is a comparatively easy matter to estimate the amount of honey in the hive.

Another way to determine the amount of honey in each hive is to weigh the hive. The gross weight of a ten-frame standard single-walled hive of bees should be not less than 70 pounds. A standard ten-frame hive with a metal cover and inner cover but with empty combs weighs about 34 pounds. Making allowance for some pollen and four or five pounds of bees, about 40 pounds should be deducted from the total weight of the hive to determine the amount of honey. An eight-frame hive similarly equipped should weigh about 65 pounds. If any hives weigh less, the only safe thing to do is to substitute frames heavy with honey for frames that are light, to bring the weight up to the required amount, or, feed sugar syrup.

How to Make and Feed Sugar Syrup

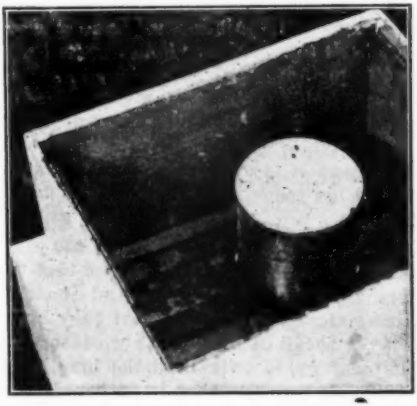
In order to estimate the amount of syrup needed one must plan on as many pounds of granulated sugar as the colony is short on stores, not allowing for water used in making the syrup. For example, if a colony needs ten pounds of stores ten pounds of granulated sugar is needed.

For making bee syrup, use only the best grade of granulated sugar. The syrup should be mixed in the proportion of two parts of granulated sugar to one part of water, either by weight or by measure. The granulated sugar should be stirred in the water which should be heated to the boiling point. The stirring should be continued until all of the granules are dissolved.

It is an advantage to use tartaric acid in making the syrup. About three-quarters of an ounce of tartaric acid should be used for each 25 pounds of sugar. The acid comes in powdered form and should be mixed with the syrup, as it is made. The acid prevents the syrup from granulating after it is stored in the combs.

A Convenient Feeder

One of the most convenient feeders is a ten-pound friction-top pail with about 20 holes punched with a small nail in the lid. The syrup should be fed while hot. The pail of syrup should be inverted over the hole in the inner cover of the hive. This puts the syrup where the bees can get to it easily. If an inner cover is not used, the pail of syrup can be inverted directly over the top-bars of the frames. In this case it is an advantage to place some pieces of burlap or old sacks over the top of the pail in order to retain the heat of the syrup so that it may be taken readily.



Sometimes pail of syrup is inverted directly over tops of frames, when hive does not have an inner cover, and empty super is placed under hive cover.

An empty hive should be placed under the regular hive cover to protect the feeder can while the feed is being taken. Feeding should be done early in October, as soon as brood rearing has ceased, so that the bees may store the syrup in the cells of the combs before cold weather comes.

It is to be hoped that all beginners who have not adopted the food-chamber hive may eventually do so and thus get away from the labor of feeding sugar syrup. It should be said, however, that in some regions of the North where bees are wintered in cellars and confined in the hives for about five months it is an advantage to feed each colony a ten-pound pail of sugar syrup after the cessation of brood rearing just prior to the time bees are put in the cellar. Sugar syrup contains no indigestible matter for bees and is considered a good food for bees wintered in bee cellars.

Importance of Winter Protection

In the southern states winter protection for bees is not so important as it is in the North. However, some winter protection for bees even in some of the southern states is an advantage. Colonies wintered out of doors in the North should be located in spots well protected from the prevailing winter winds by either natural or artificial windbreaks. In the absence of natural windbreaks, such as buildings, trees, or hills, it is an advantage to build a board fence with the boards spaced at least one inch apart, to break the force of the wind.

In the North where cellar wintering is preferable, the cellars should be absolutely dark and the temperature should range between 40 and 50 degrees Fahrenheit. The top of the cellar should be below the frost line. The bees should be put into the cellar after the last good flight in November.

Some beekeepers use double-walled hives with packing permanently built in, which require no additional packing. Such hives save labor and litter in the apiary. Bees in single-walled hives should be packed. Each hive can be packed in a box large enough to allow for two to five inches of packing on the sides and ends and four to eight inches on the top. It is an advantage to have some bottom packing as well. A bridge or tunnel must be provided at the entrance of the hive so that the bees can fly out on warm days during the winter. The entrance of the tunnel should be reduced down to about ⅜ inch by 3 inches. This opening will exclude mice and will provide ample ventilation for the bees. The box containing the hive should be made waterproof to keep the packing dry. Tarred paper can be applied over the box.

A simple method of packing bees for winter in newspapers and tarred paper is described and illustrated on pages 605-607 of this issue by Mr. Benj. Nielsen of Aurora, Nebraska.

Never winter hives of bees in brooder houses, barns or buildings above ground. The bees are likely to fly out of the buildings through windows or other openings, on warm days and being unable to return to their hives will perish. It is preferable to winter bees on their summer stands with each hive packed to protect the bees against the cold weather.

It is best not to tamper with bees during the winter months. Snow over the hive entrances does no harm as it is porous. Ice may occasionally clog hive entrances, and it is well to examine the hive entrances after a bad ice storm.

A windbreak for an apiary is a distinct advantage in wintering bees.

Sell and Buy Here

CLASSIFIED ADS

Only responsible advertisers and honest advertisements will be admitted to these columns. References required from new advertisers not known to us. Rate—7 cents per counted word each insertion. Copy should be in the 15th of month preceding.

HONEY FOR SALE

The reliability of honey sellers is not guaranteed, although strict references are required.

FOR SALE—Clover extracted. F. W. Lesser, Fayetteville, N. Y.

CHOICE white clover honey in 60-lb. cans. J. F. Moore, Tiffin, Ohio.

CHOICE Michigan clover honey, new 60's. David Running, Filion, Mich.

FOR SALE—Extracted and comb honey. M. W. Cousineau, Moorhead, Minn.

NEW crop clover extracted honey in new sixties. D. R. Townsend, Northstar, Mich.

WRITE me for prices and samples of honey. I can please you. Thos D. Sherfick, Shoals, Ind.

CHOICE light extracted honey, in 60-lb. cans, 6c per lb. F. O. B. Roaring Branch, Pa. David Conn.

WHITE clover extracted honey. Write for prices and sample. Kalona Honey Co., Kalona, Iowa.

CHOICE Michigan honey, clover-basswood blend, new cans and cases. Frank Rasmussen, Greenville, Michigan.

WRITE for prices on new crop white clover extracted comb and chunk honey. H. E. Crowther, Jefferson, Ohio.

TEN THOUSAND pounds water white sweet clover honey, $10.00 per case, 120 lbs. Ed. Mitchell, Castalia, Ohio.

FINE quality white clover honey in new cans and cases. Sample, 15c. Any quantity case or carload. Frank R. Parmelee, Le Roy, N. Y.

FANCY white comb, $3.25 case; No. 1 white, $2.75; No. 2 white, or No. 1 amber, $2.25; white clover extracted, 7c. C. B. Howard, Geneva, N. Y.

EXTRACTED white clover honey in 5-lb. pails and 60-lb. cans. 1-lb. sample, 20c; new crop; also comb honey. F. W. Summerfield. Grand Rapids, Ohio.

NEW crop section comb honey, nice white stock securely packed in carrier crates of four and eight cases. The Colorado Honey Producers' Association, Denver, Colo.

NEW YORK State comb and extracted honey, buckwheat and clover, any quantity, all size packages. Five-pound pails my specialty. Edward T. Cary, Midland Ave. and Tallman St., Syracuse, N. Y.

RASPBERRY HONEY—In 60-lb. cans, for $6.00 a can. In 10-lb. cans by mail, postpaid up to and including fourth zone, for $2.00 a can. Sample by mail, 20c. Elmer Hutchinson & Son, Lake City, Mich.

FOR SALE—Well ripened white sweet clover honey. Don't let your customers be without honey. The stock we furnish will please them. Write today for prices. Colorado Honey Producers' Association, Denver, Colo.

CHOICE clover comb honey. Forrest Dygert, Hammond, N. Y.

EXTRA fine clover honey. Case or car. Edw. Klein, Gurnee, Ill.

CLOVER honey in sixties or fives. E. C. Snyder, Bloomville, Ohio.

CLOVER honey in new 60-lb. cans. Wells B. Crane, McComb, Ohio.

FIVE tons clover honey extracted and comb. T. Hyberg, Hamel, Minn.

CHOICE clover honey in 60's. Woodward Apiaries, Clarksville, N. Y.

NEW crop comb and extracted honey. The Hubbard Apiaries, Onsted, Mich.

LIGHT amber goldenrod honey at 6c. The Vlk Apiaries, Independence, Ohio.

BEST comb and extracted clover honey. Porterholm Apiaries, Adrian, Michigan.

FINE quality white clover comb, $2.88 case. Clarence Engle, Kearneysville, W. Va.

550 CASES clover-basswood comb honey. Charles Guhl, Napoleon, Ohio, Route 7.

SEND for honey prices. Discount for quantity orders. H. G. Quirin, Bellevue, Ohio.

FINE quality New York State extracted honey. Emery Horton, West Bloomfield, N. Y.

FOR SALE—Michigan white extracted honey in 60-lb. cans. M. H. Hunt & Son, Lansing, Mich.

NORTHERN Michigan raspberry and clover honey in new 60's. C. J. Freeman, Mesick, Mich.

SUPERB quality comb and extracted now ready. Prices on request. Howard Grimble, Holcomb, N. Y.

FOR SALE—Clover honey in 60-lb. drums, fine quality, 7c per lb. f. o. b. Geo. M. Sowarby, Cato, N. Y.

NEW crop white honey, 60-lb. cans or smaller, 8-oz. sample, 15c. Clarence Deeter, Greenville, Ohio, Rt. 3.

CLOVER extracted, new sixties, case or ton lots. Also comb. Satisfaction guaranteed. I. R. VanDevier, Medina, Ohio.

HARRIS can please you with fancy white extracted. New cans. Case or carload. J. N. Harris, St. Louis, Michigan.

1934 CROP clover honey. Comb in eight-case carriers. Fancy, $3.50; No. 1, $3.00 per case. Walter A. Wood, Naples, N. Y.

FINEST white clover honey, in new 60's, $9.00 per case of 120 lbs. net. Sample, 10c. W. J. Manley, Sandusky, Mich.

BUCKWHEAT, 5½c; goldenrod, 6c; also buckwheat, part goldenrod, 5½c, in sixties. Sample, 15c. No stamps. Otto Hurd, Phalanx, Ohio.

NEW clover comb honey, in eight-case carriers, $3.25 per case, No. 1 grade; No. 2, $2.75 per case. Extracted, two 60-lb. cans to the case, $9.00. Sample, 15c. Chas. B. Hatton, Andover, Rt. 2, Ohio.

WHITE clover 60's, 7½c lb. Light amber clover, 6½c lb. C. J. Baldridge, Kendaia, N. Y.

FANCY clover honey and all other grades, in 60s; one can or a hundred. Finger Lakes Apiaries, Homer, N. Y.

FOR SALE—Sweet clover, alfalfa, basswood blend, at 7c per lb, f. o. b. Sample 10c. K. A. Gallant, Cato, N. Y.

MICHIGAN finest white clover honey, in 60-lb. cans, case or carload. Arthur Thayer & Sons, Freeland, Mich.

CHOICE new crop clover honey in new 60-lb. cans. Also amber honey. Sample, 15c. Noah Bordner, Holgate, Ohio.

FINE light colored honey in sixties 8c; chunk; 11c per lb. Sample, 15c. Jos. H. Hoehn & Sons, Ottoville, Ohio.

FINEST ever produced here; extra light clover, $8.25 per case; white comb, $3.25 case. L. L. Reynolds, Pen Argyl, Pa.

CLOVER-BASSWOOD blend honey, well ripened, in new 60-lb. cans. Sample on request. B. B. Coggshall, Groton, N. Y.

OHIO'S finest extracted white clover honey. Sample, 10c. Prices upon request. The Cloverdale Apiaries, Cloverdale, Ohio.

WHITE clover, amber, buckwheat, both comb and extracted, all grades. Discount on quantity lots. Write F. J. Smith, Castalia, Ohio.

RASPBERRY, CLOVER—New crop, finest obtainable, in 5-lb. pails, 10c; in 60s, 8½c. Murray's Golden Apiaries, Clarion, Mich.

WHITE CLOVER-BASSWOOD honey, fine color, heavy body, 7c; also pure buckwheat, 7c; new cans and cases. Harold Long, Millville, Pa.

FOR SALE—Several thousand pounds, delicious well-ripened white honey, in new 60-pound cans, 2 to case, 8c per lb. Valley View Apiaries, Savanna, Ill.

FOR SALE—Finest white clover extracted honey in new 60-lb. cans, 8c per lb, by case of 120 lbs. or more. F. O. B. Flint. L. S. Griggs, 711 Avon St., Flint, Mich.

KIRK'S best quality sweet clover honey in new sixties. Case or carload. Satisfaction guaranteed. Prices on request. Sample, 20c. Harry C. Kirk, Armstrong, Iowa.

FINEST Michigan clover honey; in new cans and cases. A little amber for baking purposes. Write for your requirements. E. D. Townsend & Sons, Northstar, Michigan.

NEW crop clover honey, best quality, new 60-lb. tins, in lots of 1 to 5, at 7½c per lb.; larger quantities, 7c per lb. It will please you. W. D. Achord, Findlay, Ohio.

HOWDY'S HONEY—White, clover extracted in new sixties, $5 per can. Ten or more, 8c per lb. F. O. B. Ithaca. Howard Potter, Ithaca, Michigan. (Personal, Harvard University, Cambridge, Mass.)

FOR SALE—Fancy wrapped comb honey, six-case lot, $4.00; No. 1 in paper case, $3.50; No. 1, amber and clover mixed, $2.50, not wrapped. In quantity lots, write. Liberal discount. N. B. Querin & Son, Bellevue, Ohio.

1934 granulated clover-basswood honey, blended by the bees. Well ripened, heavy of body, fine taste and a nice very light amber color; $4.50 a 60-lb. can. For larger orders, write for prices. Sample, 10c. M. Noack, 3911 Polk St., Chicago, Ill.

HONEY AND WAX WANTED

BEEKEEPERS TAKE NOTE—We will not guarantee any honey buyer's financial responsibility and advise all beekeepers to sell for cash only or on C. O. D. terms except when the buyer has thoroughly established his credit with the sellers.

CASH for dark grades of honey. C. Jankowski, Gurnee, Illinois.

WANTED—Comb and extracted honey. Mail sample, state quantity and price. Sherfick Farms, Shoals, Ind.

WANTED—Carlots of honey, state quantity, shipping point and price. Mail sample. Bryant & Cookinham, Inc., Los Angeles, Calif.

WANTED—White extracted honey, Truck and carlots. State quantity and price. Mail sample. Morehead Apiaries, Convoy, Ohio.

WANTED—Carlots or less of white clover extracted honey. Mail price and sample to Clover Blossom Honey Co., Columbus, Ohio.

WANTED—Carloads and less than carloads of extracted honey; also comb. Mail samples and best prices. C. W. Aeppler Company, Oconomowoc, Wisconsin.

WANTED—Honey and beeswax. Beekeepers will find it to their advantage to communicate with us. Please send samples, state quantity available and prices. California Honey Company, Hamilton & Company, Agent, 108 W. Sixth St., Los Angeles, California.

FOR SALE

SAVE queens. Safin cages now 15c, ten for $1. Allen Latham, Norwichtown, Conn.

FOR SALE—Old-fashioned round straw beehives. G. Korn, Berrien Springs, Mich.

ELECTRICAL comb honey cutting knives, uncapping knives, $10.00 each; with thermostat, $14.00. Paul Krebs, 8000 Fulton Ave., Detroit, Michigan.

BEST quality bee supplies attractive prices, prompt shipment. Illustrated catalog upon request. We take beeswax in trade for bee supplies. The Colorado Honey Producers' Assoc., Denver, Colo.

FOR SALE—Fine quality queen-mailing cages; Root quality bee supplies; both comb and extracted honey. Orders filled promptly. Write us or drive over M53, fifty miles north of Detroit. Hamilton Bee Supply Co., Almont, Mich.

BEES AND QUEENS FOR SALE

WHOLE colonies of bees, if advertised for sale in these columns, must either be guaranteed free from disease, or, if not so guaranteed, the exact condition of the bees and the conditions of sale must be clearly stated in the advertisement; or it will be satisfactory if the advertiser will agree to furnish a certificate of health from some authorized bee inspector at time of sale.

"SHE-SUITS-ME" queens, see cut on page 574. Allen Latham, Norwichtown, Conn.

MOUNTAIN GRAY Caucasian bees and queens. Get in touch with us for your 1935 needs. Bolling Bee Co., Bolling, Ala.

GET STUNG—These queens winter and pay their way; 70c each; ten, $6.50; 25, $13.50; 50, $25.00. D. W. Howell, Shellman, Georgia.

FOR SALE—250 colonies of bees, guaranteed free from disease, shop equipment, Root 45-frame Simplicity extractor. Mrs. A. B. Arnett, Valdosta, Ga.

THREE-BANDED Italian bees and queens that are real honey gatherers and gentle to work with, at code prices. Alamance Bee Co., Graham, N. C.

CAUCASIAN QUEENS—September and October delivery, that produce gentle bees and good honey-gatherers at code prices. Lewis & Tillery Bee Co., Greenville, Ala.

MISCELLANEOUS

WANTED—To trade printing for honey. Snapp Printing Co., Greenville, Tenn.

EXCHANGE—Methods and books by America's most famous trappers for bee books, magazines, or what? Voyles Williams, Ashland, Ky.

LETTERHEADS, envelopes, lowest prices, quality considered. Samples, prices free. Beekeepers' Printing Company, 1010 Eighth, Watertown, Wis.

BEEKEEPERS—Improve sources of nectar by planting vitex trees, or seed. Two-year-old trees, 40c; one-year-old trees, 25c. New tested seed at $1.00 per ounce. All prepaid. Joe Stallsmith, Galena, Kansas.

TOO LATE FOR CLASSIFICATION

FOR SALE—Extracted and comb honey. R. J. Williams, Attica, Ohio.

CHOICE clover honey, also amber, in 60's. Wm. J. Martin, Croswell, Mich.

DELICIOUS clover honey, 6-lb. can, $1.00 Prepaid to third zone. L. H. Lindemuth, Lehmaster, Pa.

FOR SALE—5½ tons of Michigan clover honey. Sample, 20c. A. S. Tedman, Weston, Mich.

WHITE light amber and amber honey, in 5, 10 and 60 lb. tins. Harry T. Gable, Romulus, New York.

BUCKEYE extractor, 8-frame, fair condition. Power. Carl Landwehr, Delphos, Ohio. F. O. B. Write for price.

BUY Alger's long-bodied, long-tongued honeybees; 10-frame hives, 100 colonies, and 200 full-depth supers. Certificate of inspection furnished. Alger, Waukau, Wis.

BLACK LOCUST TREES (Robinia Pseudo Acacia)—Bloom after fruit trees and before clover. Plant a hundred in your neighborhood to insure extra heavy brooding just before clover starts. Make fine windbreaks or street plantings. Trees sent post or express paid. Ready now until April. 10,000 fine trees available; 5 ft., $10.00 per 100; 4 ft., $8.00 per 100; 3 ft., $6.00 per 100; 2 ft., $5.00 per 100. Do not order less than 50 of a size. Correspondence invited. Conrad G. Kruse, Logansville, Wis.

GOVERNMENT HONEY MARKET REPORT

(Continued from page 581.)

One car water white mixed clovers reported sold at 5.4c, 2 cars white 5½c, with cans furnished; smaller lots, 6½c per lb.

Summary.—Temperatures have been below normal throughout the central part of the country, but higher than normal along the eastern coast and west of the Continental divide. Rainfall has been heavy along the eastern seaboard and in scattered parts of the central states, until with few exceptions the top soil almost everywhere in the eastern and central parts of the country has sufficient moisture for present needs. The sub-soil still needs more moisture over most of the central west. Rainfall was so heavy and accompanied by so much cool weather over much of the eastern and central states that the fall flow has so far been curtailed, but a lot flow from goldenrod, aster, smartweed and other late blooms is possible. In California and occasionally in the plains states much feeding for winter will be necessary but over most of the country stores are ample and the condition of colonies is satisfactory. Brood rearing is continuing rather late. Demand for honey is perhaps not quite so brisk as it was at the start of the new season, but it continues rather active and many carloads are being sold. Local demand is also good as the shortness of the crop becomes more evident. Prices are generally 1c to 2c per pound above those of last year, though occasional price-cutters are found. Good comb honey is especially scarce. Export demand has been negligible with advancing market prices.

A Word of Appreciation

We do appreciate the patronage of our bee and queen customers this past season, and we hope that the queens from our Imported stock may prove better than any that you have ever tried.

The A. I. Root Co.
MEDINA, OHIO

HOME MADE CANDY.. PAYS BIG

Earn good money from the very beginning. Make candy at home in spare time. Start small; grow quickly. Expert teaches practical, money-making methods by mail. Big profits all year round. Write for free details.
LEWIS TRAINING INSTITUTE
Suite SS-4321 Washington, D. C.

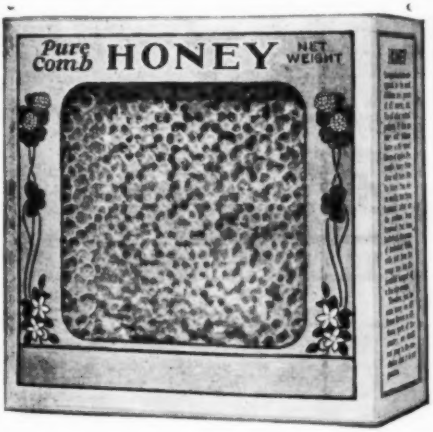
Carniolans-Caucasians

The queen-rearing season is ended for this year. We appreciate very highly and wish to thank our many customers for their valued orders. We expect to be prepared to serve all old and many new patrons better next season. Code prices.
Albert G. Hann, Glen Gardner, N. J.

PACKAGE BEES
For 1935
At Code Prices. Let us save you money by furnishing good queens with the packages.
The Crowville Apiaries, Winnsboro, Rt. 1, La.

Large Window Cartons Cost Less

Than Decorated Cellophane if Saving in Labor is Considered



HONEY—

--Easily Packed
--Well Protected
--Better Displayed
--Sells at Best Price

New Modernistic Honey Jar

A beautiful container, of white glass. White enamel caps, furnished in 8, 16, 32 and 48 ounce sizes. Same price as round and paneled jars.

(Labels not included in prices.)

PRICES OF PAILS AND CANS

2½-lb. can, 24 to carton, wt. 16 lbs.	$1.00 per carton
2½-lb. can, 100 to carton, wt. 35 lbs.	$3.60 for 100
5-lb. pail, 12 to carton, wt. 13 lbs.	.90 per carton
5-lb. pail, 50 to carton, wt. 29 lbs.	$3.15 per carton
10-lb. pail, 6 to carton, wt. 12 lbs.	.70 per carton
10-lb. pail, 50 to carton, wt. 45 lbs.	$4.60 per carton

Write for prices on quantity lots. Prices F. O. B. Medina, Ohio. Write for quotations F. O. B. other shipping points.

The A. I. Root Co., Medina, Ohio

30 ATTRACTIVE DESIGNS
"Eat Honey" Stickers, 1000, only 40c.

Root QUALITY BEE SUPPLIES

HONEY LABELS

SAMPLE FREE ✦ WRITE

Root QUALITY BEE SUPPLIES

THE A. I. ROOT CO., MEDINA, OHIO

QUALITY BRED ITALIAN BEES AND QUEENS

We offer you unsurpassed quality, young bees, select queens, on time shipments, large quantities, full weights, light cages, safe arrival and satisfaction.

QUEENS BY MAIL POSTPAID

1 to 9	10 to 24	25 to 49	50 to 99	100 to 249	250 or more
70c each	65c each	55c each	50c each	45c each	42½c each

For queenless packages, deduct price of queens. For shipment by parcel post, add 20c per package, plus postage. For larger packages, add 80c for each additional pound of bees. Place your order now for choice of shipping dates and have your bees when wanted. Full line of Lewis Beeware and Dadant's Foundation at catalog prices.

YORK BEE CO., The Universal Apiaries Jesup, Ga.

Garon's Bright Honey Fed Italian Queens

If you have not yet tried our "Diamonds," we can supply them now, or quote you on your 1935 requirements. We are as far advanced with preparations for 1935 as the season will permit. We are looking ahead for some of your business.

GARON BEE CO., Donaldsonville, La.

Better Bred Italian Queens

Send us your rush orders as we are prepared to take care of them, with the same quality and service as heretofore.

Queens—1 to 9, 70c; 9-24, 65c; 24-49, 55c; 50-99, 50c; 100-249, 45c; 250 or more, 42½c.

CALVERT APIARIES, Calvert, Alabama

Try the E. A. Simmon's Apiaries

GOLDEN ITALIAN QUEENS

There are none better. They have given satisfaction for over 30 years. Caged the day they are shipped. Ready to lay when you get them. 1 to 9, 70c each; 10 to 24, 65c each.

E. A. SIMMONS APIARIES, Greenville, Ala.
Powell Owen, Mgr.

Hollopeter's Queens

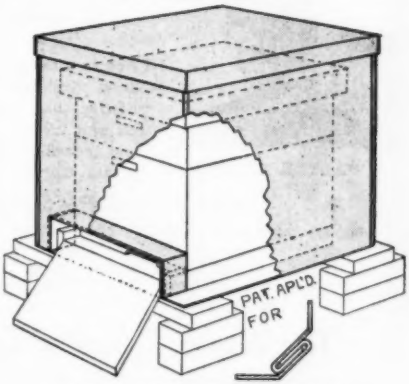
SUCCESSFUL REQUEENING can still be accomplished and the new queen not having gone through a period of heavy laying, will, in the spring, be full of vim and vigor ready to do a full season's work. A generous supply of pollen and nectar still coming in, make our fall queens the equal of any summer reared ones. Then, too, being bred by Mr. Hollopeter from our home grown stock, we have a distinctive strain of Italians noted for their hardiness, working qualities and gentleness.

Untested queens, by return mail: 1, 70c; ten, $6.50; 25, $13.75; 50, $25. Tested queen, $1.50.

No disease, safe arrival and satisfaction guaranteed.

White Pine Bee Farms, Rockton, Pa.
With Gleanings since 1911.

Winter Packing Case
for Bee Hives



Galvanized Sheet Steel

Quickly Assembled and Dismantled by Sliding Seams. No Bolting, Riveting or Nailing.

Packs flat in small space for storing and shipping. Great time saver, weather proof and gives perfect protection to bees. Dimensions 21¾ inches wide, 25½ inches long by 21¾ inches high. Very durable, economical and will save you money.

Price, $2.75 each, for single case, and $2.50 each in standard package of five.

CLARK SPRAY MACHINE CO.
HARTFORD OHIO

Moore's Strain

Leather Colored Italian Queens

NORTHERN BRED

1 to 9	70c each
10 to 24	65c each
25 to 49	55c each
50 or more	50c each

World-wide reputation for honey-gathering, hardiness, gentleness, etc., since 1879. Safe arrival and satisfaction guaranteed. Circular free.

J. P. Moore
MORGAN KENTUCKY

Latham's Queens
"She-Suits-Me" Queens
are line-bred three-banded
Italians
This strain of Italians is untongue-tested in tongue-length and also in nectar gathering
1 untested laying queen 80c
6 for $4.50 12 for $8
Allen Latham
Norwichtown
Conn.

Wanted White Extracted Honey
Send Sample and best price Frt. Paid to Cincinnati, O.
THE FRED. W. MUTH CO.

WALTER T. KELLEY

Paducah, Kentucky

I beg to announce that I have moved my factory to Paducah, Kentucky, from which point I will be able to serve you better and cheaper than ever before. Many trains leave Paducah every day and the freight rates are actually less to and from Paducah to most points in the South (excepting Louisiana) than to and from Houma. This is why I moved to Paducah.

WAX WORKED INTO FOUNDATION

Let me work your wax into bee comb foundation this fall. I will do this on a cash basis or take my working charges out in wax.

QUEENS—Select laying Italian queen bees. Send your orders to me at Paducah for quick delivery, 1 to 9, 70c; 10 to 24, 65c; 25 to 49, 60c; 50, 50c.

WAX AND HONEY, OR WHAT HAVE YOU, ACCEPTED IN TRADE.

The Walter T. Kelley Company, Paducah, Kentucky

Dependable Italian Queens

Our summer and fall flow has begun, making natural conditions ideal for queen rearing.

INSTANT SERVICE

Orders received by noon are shipped same day.

PRICES FOR BALANCE OF SEASON:

1-9	10-24	25-49	50-99	100-249	250 or more.
70c	65c	55c	50c	45c	42½c

J. E. WING, Cottonwood, California

HALF A MILLION

Merrill's Quality Queens have been used in 25 years. We believe they are good. You try them and let us know how they work for you.

Prices—Italian Queens: 1-9, 70c; 10-24, 65c; 25-49, 55c; 50-99, 50c; 100-250, 45c; 250 or more, 42½c.

MERRILL BEE COMPANY

Mississippi's Oldest Shippers. BUCATUNNA, MISS.

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